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**JAMES L. HAVEN & CO.'S**

*Illustrated*

**CATALOGUE AND PRICE LIST**

OF

**Cabinet Hardware**

AND

**IMPLEMENTS.**

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**WAREHOUSE:**

***No. 56 PLUM STREET.***

**FACTORIES:**

**Nos. 167 to 177 West Second St., and 51 to 57 Elm St.,**

**CINCINNATI.**

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**TIMES STEAM BOOK AND JOB PRINTING OFFICE.**

**1873.**

**ORDER BY THE NUMBERS.**

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## TO FURNITURE MANUFACTURERS.

**WE** hand you illustrations of various articles of our manufacture in your line, to which we invite your attention.

**BEDSTEAD FASTENERS** we make a specialty, and have had few complaints for years. Every piece will fit any other of the same number, requiring no fitting on your part.

Of **CASTERS** we have gotten up a new series, and will endeavor to keep a full supply with both Iron and Porcelain Wheels.

This book has been gotten up at great expense, and presented to you without charge, for our mutual advantage, and we hope you will not destroy nor mutilate it. In ordering, it is entirely useless to cut out or to send the illustration. The Trade know our sizes and numbers, and by ordering "Haven's" Casters or Bedstead Fasteners by the numbers you will get what you want.

### TERMS AND CONDITIONS.

Circulars will be mailed to our customers and the trade generally whenever issued, but we accept orders only at rates ruling on day of shipment—our prices being subject to market changes **WITHOUT NOTICE.**

All Claims for errors must be made immediately on receipt of goods.

We do not insure delivery or safe carriage of goods. Our responsibility ceases when merchandise is receipted for in good order. Your recourse is upon the carrier.

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**Payable in Cincinnati Current Funds or New York Exchange.**

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**JAMES L. HAVEN & CO.**

**No. 56 Plum Street,**

**CINCINNATI.**

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JAMES L. HAVEN & CO.'S

ILLUSTRATED

CATALOGUE & PRICE LIST

—OF—

Cabinet Hardware

—AND—

IMPLEMENTS.

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WAREHOUSE:

*No. 56 PLUM STREET.*

FACTORIES ADJOINING:

*Fronting over 700 Feet on Second, Elm and Commerce Sts.*

CINCINNATI, O.

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TIMES STEAM BOOK AND JOB OFFICE.

No. 62 WEST THIRD STREET.

# TO FURNITURE MANUFACTURERS.

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

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**No. 56 Plum Street,**

**CINCINNATI.**

JAMES L. HAVEN & COMPANY'S

## BEDSTEAD FASTENERS.

---

Having made Bedstead Fasteners a specialty for many years, we offer an assortment of styles which we believe is unequaled by any other manufacturer, and for the reason that we make more than any other concern, are justified in giving them more attention, and we may say never have complaints of misfits, as every separate piece, male and female, is tried in and on standard Iron Gauges—so that a misfit is very rare.

We particularly ask attention to our "DOVETAIL FASTENERS," which we believe combine more advantages than any which have hitherto been offered to the trade, as there are no screws to pull out, nothing projecting on the side of post or rail to rub in shipping; any rail will fit any post, and there is no probability of trouble of any sort. Bedsteads purchased even from different manufacturers who use our Fasteners, are interchangeable, saving the annoyance caused by mixing rails.

The economy of the Dovetail Fasteners is not less than TEN DOLLARS per hundred Bedsteads over most others, and fully \$25 per hundred over some that we know of. We have yet to hear of the first complaint from furniture dealers of our Fasteners becoming loose, which with other sorts is a frequent source of annoyance. In fact we have been aided in the sale of Machines and Castings by the preference expressed by dealers for "Bedsteads with the Patent Fasteners."

The Dovetail Mortise is formed more rapidly than a straight mortise can be "routed" for any of the usual flat plates, and fully as rapidly as a saw kerf can be cut to receive some sorts of fasteners, which require only a groove.

On our machine Two HUNDRED AND FIFTY posts have been routed in one hour, and two hundred an hour is not a difficult job for a skillful workman, as it is not even necessary to take time to assort the posts, it being constructed to cut either right or left, as the workman happens to pick the posts up.

We license no other manufacturers, as we are able to supply all demands; and from the quantity we make are justified in taking greater care than a small manufacturer could afford to do.

---

### OUR RAIL FASTENERS

Are let in by the same machine, and as rapidly as the Post Fasteners—requiring no cutting, chiseling, or fitting by hand, and enables you to use seven-eighths stuff for rails.

If any manufacturer of Bedsteads will write us, we will give indubitable evidence of the truth of all our assertions, and think we can show that a profit will result from a change, if not already using our Fasteners.

---

### OUR PATENTS.

We give *fac similes* of the patents by which our fasteners are protected, so that no one will have any plea of ignorance of our rights.

# UNITED STATES PATENT OFFICE.

JAMES L. HAVEN & CO., OF CINCINNATI, OHIO, ASSIGNEES  
OF JOHN LEMMAN..

Letters Patent No. 58,437, dated October 2, 1866; reissue No. 4,028, dated June 14, 1870.

## IMPROVED BEDSTEAD FASTENING.

THE SCHEDULE REFERRED TO IN THESE LETTERS PATENT, AND MAKING PART OF THE SAME.

*To all whom it may concern:*

"Be it known that JOHN LEMMAN, of Cincinnati, Hamilton county, and State of Ohio, invented a new and useful Improvement in Bedstead Fasteners, of which the following is a full and clear description, reference being had to the accompanying drawing, forming part of this specification.

"The invention relates to an improved mode of fastening a device to a bedstead post to receive the rails.

"Figure 1 represents a perspective view of the improved 'fastener' in its place in a bedstead post.

"Figure 2 is a perspective view of the 'female part' of the fastener, embodying the improvement, showing the shape of the piece.

"Figure 3 is a transverse section of the fastener, taken centrally, showing the plane of the side flanges.

"Figure 4 represents a side view, a modified form of the improved bedstead fastener located in the post.

"Figure 5 is a transverse section of my modified improvement, taken in the plane 1-2.

"A is a bedstead post, to which is secured the improvement.

"The 'female part' of the fastener B is an open box of metal.

"The sides *b* flare outward and continue round the lower end, *b'*, of the box.

"The post A is mortised to receive the female part B, which has slots, C, to receive the lugs of any common male fasteners that are used on rails.

"The edges of the sides *b* and lower end *b'* are cut to the arc of a circle, commencing at the feather edges *b''*.

"In the modified form, E, of the female part, as shown in figures 4 and 5, the sides are vertical and their edges straight from the feather edge to the opposite end; also, flanges, *e*, project externally from the edges. They fit into grooves in the sides of the mortise in posts A.

"In placing the female part B of the bedstead fastener in the mortise in post A, the lower circular end *b'* is inserted in the upper end of the mortise in post A.

"The flare of side *b* secures the female portion B to posts A without the use of screws; it is readily removed without the use of instruments.

"In the modified form, the edges *b* may be straight, and the exterior flanges, *e*, may be made to answer in place of the flare, as shown in female part B, or the exterior flanges *e* may be applied to the part B.

"The precise form of the sides, as shown, *b b*, figure 3, or *e e*, figure 5, may be varied in shape, or the cut made to emerge at the lower end, without altering the character or nature of the invention, the shapes shown being the extremes, to form the flare or dovetail.

"The improvement, though primarily designed for bedsteads, is applicable to various articles of furniture and other things that require to be united by metallic fasteners."

Having described the improved fastening, its application, and utility—

We make the following claims as the invention of JOHN LEMMAN:

1. A metallic fastening, constructed as herein described and set forth, for the purpose substantially as described and specified.

2. Inserting in a bedstead post a segment of circle, B, in a mortise with beveled sides and lower end for the purpose of securing it to the post A without any other fastening, substantially as described and set forth.

JAMES L. HAVEN & CO.

Witnesses: J. D. PATTEN, ALONZO HUGHES.

## DRAWINGS TO WHICH THE LETTERS-PATENT REFER.

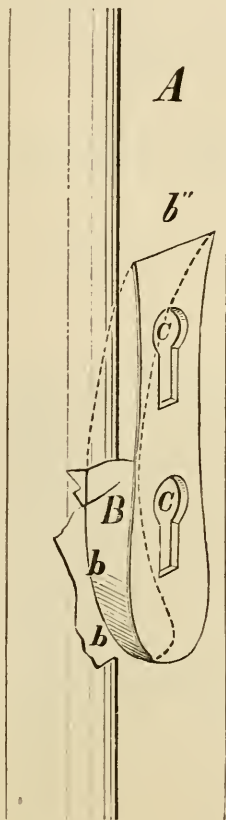


Fig. 2.

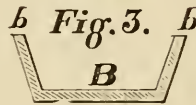
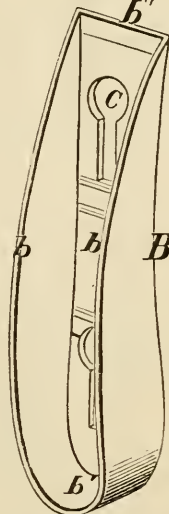
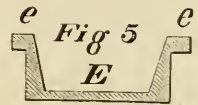
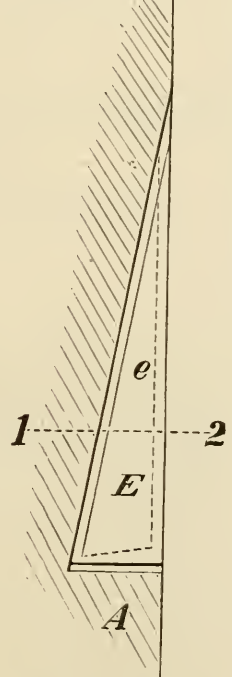


Fig. 4.



We set forth fairly all of our patent, by which we think is secured us—

I. All Bedstead Fasteners commencing with a "FEATHER EDGE," "substantially as described."

II. Inserting in a bedstead post a WEDGE-SHAPED FASTENER in a mortise with beveled sides and lower end (OR IN A T-SHAPED MORTISE), "substantially as described."

We claim this because we think we own it, and propose to sustain what we consider to be our rights against infringers.

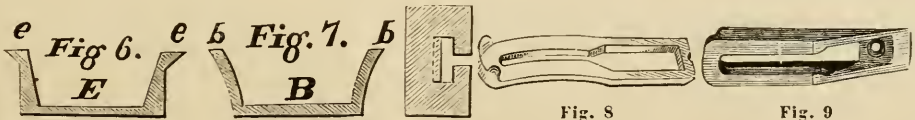


Fig. 8

Fig. 9

Patents have been issued on various devices which we think infringe our rights.

One, a section of which is shown by fig. 6; and another, a section of which is shown by fig. 7; a third, in general terms, on a flat (FEATHER EDGED) plate, "adapted to be inserted in a T-shaped mortise," fig. 8, which is manufactured in the shape fig. 9.

We prosecuted the manufacturers of fig. 6 and obtained a decree of perpetual injunction, with costs and damages.

We have also sued the manufacturers of fig. 9, believing it to be an infringement.

# UNITED STATES PATENT OFFICE.

ANN M. RODEFER, OF HAMILTON COUNTY, ADMINISTRATRIX  
OF JOSEPH RODEFER, DECEASED; ASSIGNOR TO  
JAS. L. HAVEN & CO., OF CINCINNATI, O.

**Letters Patent No. 12,693; dated April 10, 1855; extended seven years;  
Reissue No. 4,432, dated June 20, 1871.**

## IMPROVEMENT IN BEDSTEAD FASTENINGS.

THE SCHEDULE REFERRED TO IN THESE LETTERS PATENT, AND MAKING PART OF THE SAME.

*To all whom it may concern :*

Be it known that JOSEPH RODEFER, deceased, late of Cincinnati, Hamilton county, Ohio, invented a new and useful Improvement in Bedstead Fastenings, of which the following is a specification.

### Nature and Objects of the Invention.

The invention consists in giving the shank, or that portion of the bedstead-fastening by which it is attached to the rail or post, an annular segmental form, adapted to occupy such a corresponding segmental cavity in the rail as can be excavated at a single operation by means of a rotary cutter, thus combining great strength and endurance with simplicity and cheapness of manufacture.

### General Description with Reference to the Drawing.

The drawing is a side elevation of a male or tenon part or member of a bedstead-fastening embodying said invention.

*a* is a portion of a bedstead rail, and

*b* a post, which latter is shown partly in section.

The male or tenon member of the fastening is, in its simplest form, an annular segment, *c*, which is sunk into a corresponding annular groove or cavity in the side of the rail from whose end the portions *e* and *f* project to form

the tenons. One of these portions *e* being hooked, as shown, may engage over a pin, *g*, within the post-mortise *h*, within which the portion *f*, also engaging, prevents any turning of the rail in the post.

The member *c* may be secured against lateral displacement by a button or otherwise.

Where intended for use in conjunction with a common two-hole mortise-plate, both projections may have the same hooked or dovetailed form as the upper one here shown, and may be strengthened by a brace or cord-piece, so as to have the form of the letter **D**.

While described and chiefly intended for the tenon portion, the device is manifestly applicable for the mortise portion or member of a bedstead-fastener.

### Claim.

What is claimed as the invention of the said RODEFER is—

A bedstead-fastener, adapted to be held in place by being let into an annular groove on the side of the rail or post substantially as described.

In testimony of which invention I hereunto set my hand.

ANN M. RODEFER,

*Administratrix of Joseph Rodefer, deceased.*

Witnesses: GEO. H. KNIGHT,  
THOS. McLEAN.

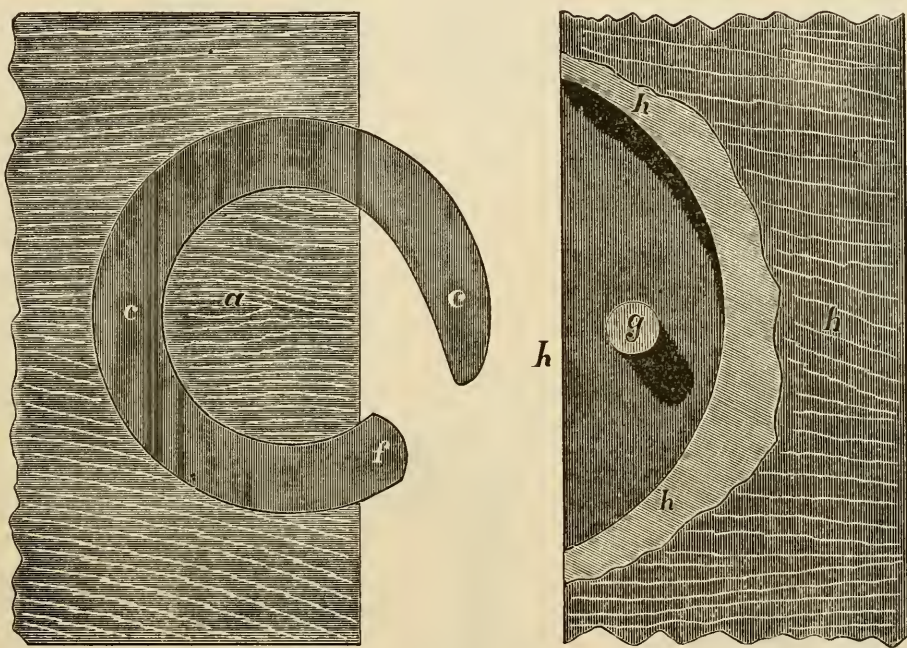
Above we give a full and accurate copy of the re-issue of the letters patent originally granted to JOSEPH RODEFER, April 10th, 1855. No one except us have the right to make **Ring Bedstead Fasteners**, and no furniture manufacturer has the right to use, nor any dealer the right to sell, those made by any other party not licensed to manufacture them; and we most earnestly request infringers to stop without a law suit, which will certainly result if the violation of our rights is persisted in.

JAMES L. HAVEN & CO.  
BROWN, KNECHT & KEMPF.

J. RODEFER.

BEDSTEAD FASTENING.

Reissued June 20th, 1871.



ANN M. RODEFER,  
*Administratrix of JOSEPH RODEFER, Inventor, dec'd.*

*By KNIGHT BROS., Attorneys.*

*Attest:* JAS. H. LAYMAN,  
JOHN KILOH.

# PATENT DOVETAIL BED FASTENERS.

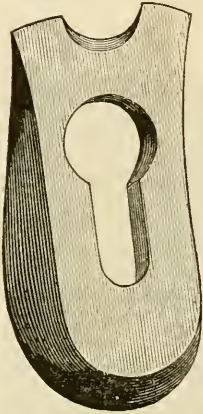
SCREW-HEADED, TWISTED, NAILS.

For Patent Dovetail Bed Fasteners.



We find it difficult to persuade manufacturers to dispense with screws, but those who do have no trouble whatever. The list price of a suitable screw ( $\frac{3}{4}$ -inch, No. 8) is 79 cents per gross; the discount you can get from the hardware dealers depends somewhat on the quantity you buy.

We furnish a malleable screw nail, which answers every purpose, at less than half the cost of screws, viz: 20 cents per pound; costing about 40 cents for 100 bedsteads.



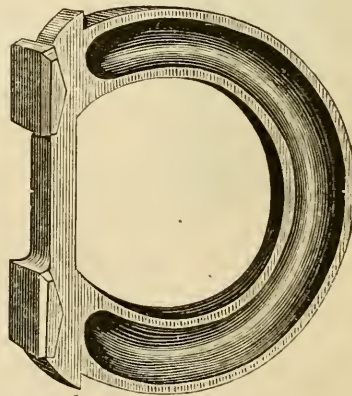
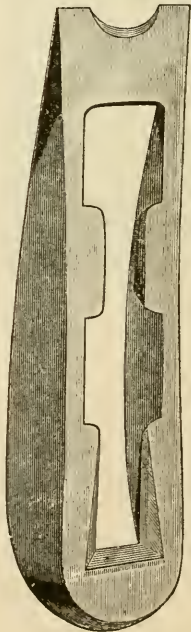
## LOUNGE FASTENERS.

The Rail Fastener to suit this is a No. 14  $1\frac{1}{2}$ -inch wood screw.

No. 00, per 100 sets, - - - - - \$2 00

Plate is 15-16 of an inch wide.

Use bit No. 5.



No. 00600, per 100 sets, - - - - - \$6 00

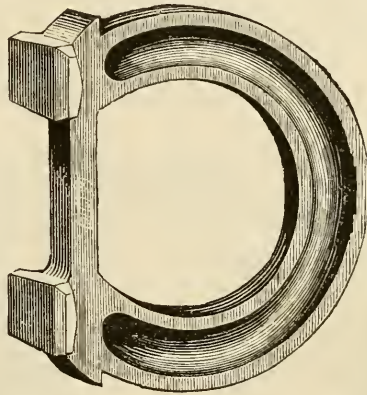
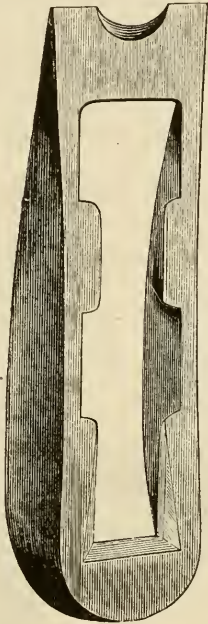
Plate is 3-4 of an inch wide. Use bit No. 00.

Require about 3 gross  $\frac{3}{4}$ -inch No. 8 wood screws for 100 Bedsteads.

List price of screws, - - - - - per gross, 79 cents.

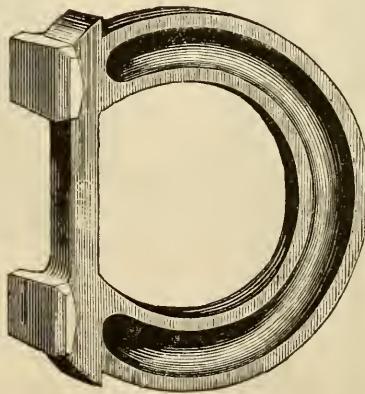
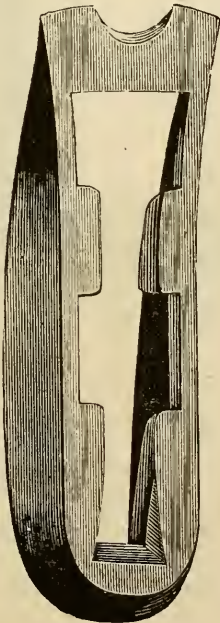
Or 400 nails, costing about (for the lot), - - - - - 40 "

# PATENT DOVETAIL BED FASTENERS.



No. 0600, per 100 sets, - - - \$6 50

For routing posts use the bit marked 5.



No. 600, per 100 sets, - - - \$7 00

Plate is 1 and 1-8 inch wide.

For routing posts use the bit marked 0.

Require about 3 gross  $\frac{3}{4}$ -inch No. 8 wood screws for 100 Bedsteads.

List price of screws, - - - - - per gross, 79 cents.

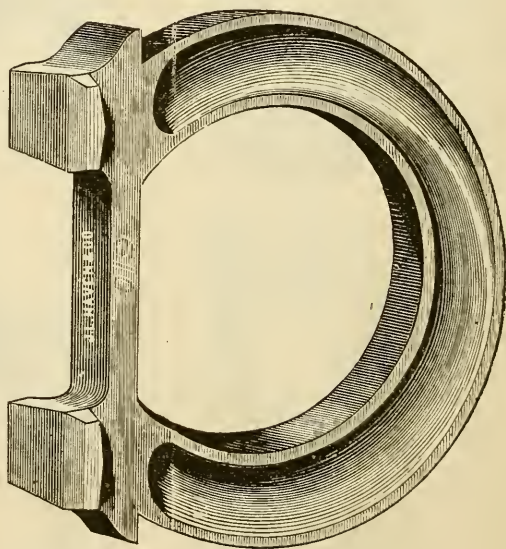
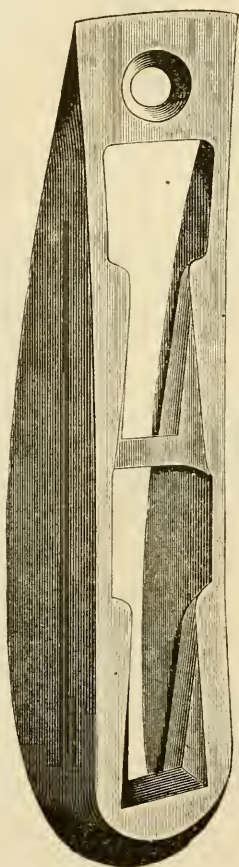
Or 400 nails, costing about (for the lot), - - - - - 40 "

## PATENT DOVETAIL BED FASTENERS.

"Allow us to congratulate you on the success of your Patent Dovetail Bed Fastener Machine. Having been in the business a long time, we pronounce it the best of the kind we have ever seen, and it certainly does all you claim for it, and more. We use ours for boring and other purposes. We have had your Machine for eight months, and are confident it has twice paid for itself in saving of labor, screws, etc."

AUGHINBAUGH, ANDREWS & CO.,

*Wellsville, Ohio.*



No. 605, per hundred sets, - - - \$10 00

Plate is 15-16 of an inch wide.

Require about 3 gross  $\frac{3}{4}$ -inch No. 8 wood screws for 100 Bedsteads.

List price of screws, - - - - - per gross, 79 cents.

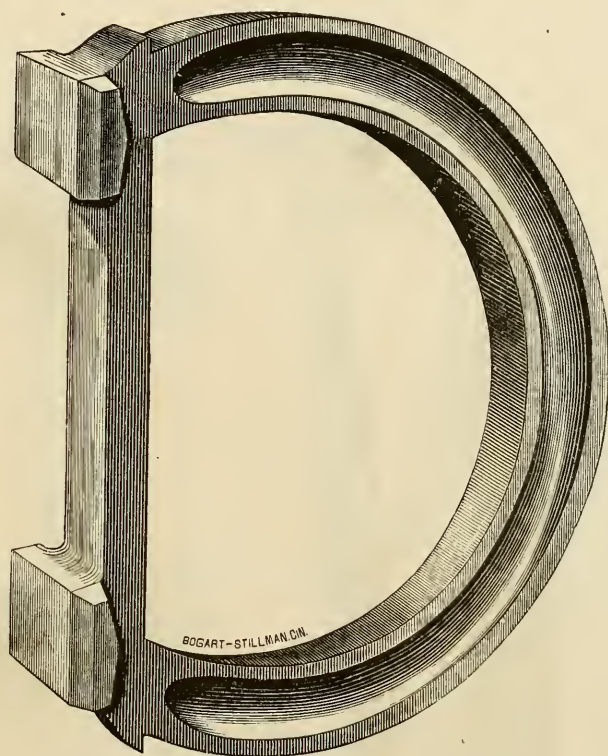
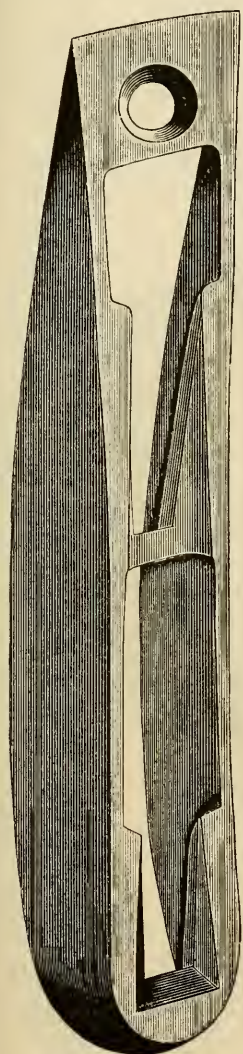
Or 400 nails, costing about (for the lot), - - - - - 40 "

For routing posts use the No. 5 bit.

# PATENT DOVETAIL BED FASTENERS.

"We see nothing in your circular but what your Fasteners and Machine is fully up to. We believe it to be the most perfect, cheap and complete Fastening in use."

C. S. & H. S. BLACK,  
*Buchanan, Mich.*



No. 615, per hundred sets, - - - - \$14 00

Plates 15 16 of an inch wide.

Require about 3 gross  $\frac{3}{4}$ -inch No. 8 wood screws for 100 Bedsteads.

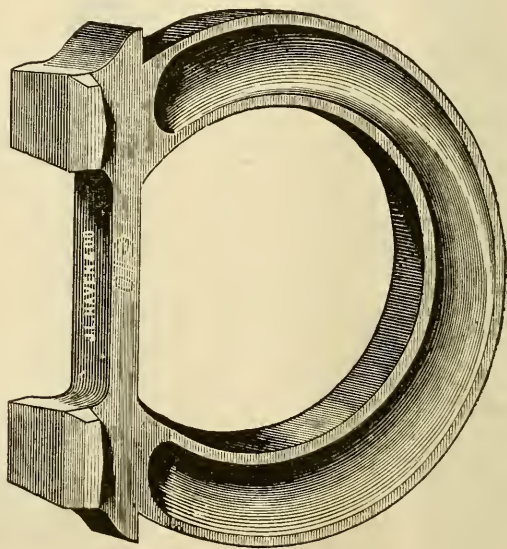
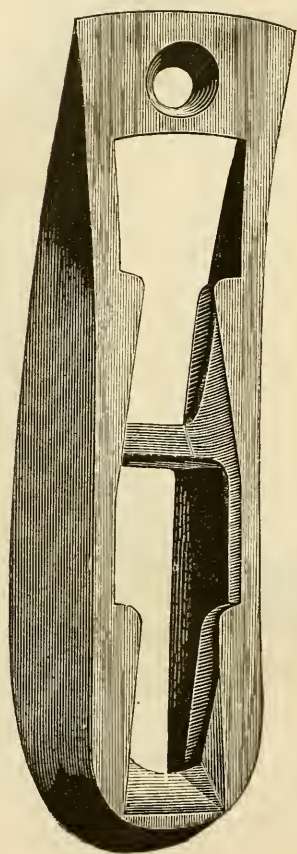
List price of screws, - - - - - per gross, 79 cents.  
Or 400 nails, costing about (for the lot), - - - - 40 "

Use bit No. 5. On Wood Frame Machine use it with socket numbered 615.

## PATENT DOVETAIL BED FASTENERS.

"Would say, regarding your Bed Fasteners, after an experience of thirty-four years: We have tried all kinds of Fastenings, and consider yours the very best we have used or seen. They can be put in the post and rails much quicker and better, and at a saving of at least ten per cent. over all others."

W. R. HOYT & CO.,  
Toledo, O.



No. 610, per hundred sets, - - - \$12 00

Plate is 1 and 5/16 of an inch wide.

Require about 3 gross 3/4-inch No. 8 wood screws for 100 Bedsteads.

List price of screws, - - - - - per gross, 79 cents.

Or 400 nails, costing about (for the lot), - - - - - 40 "

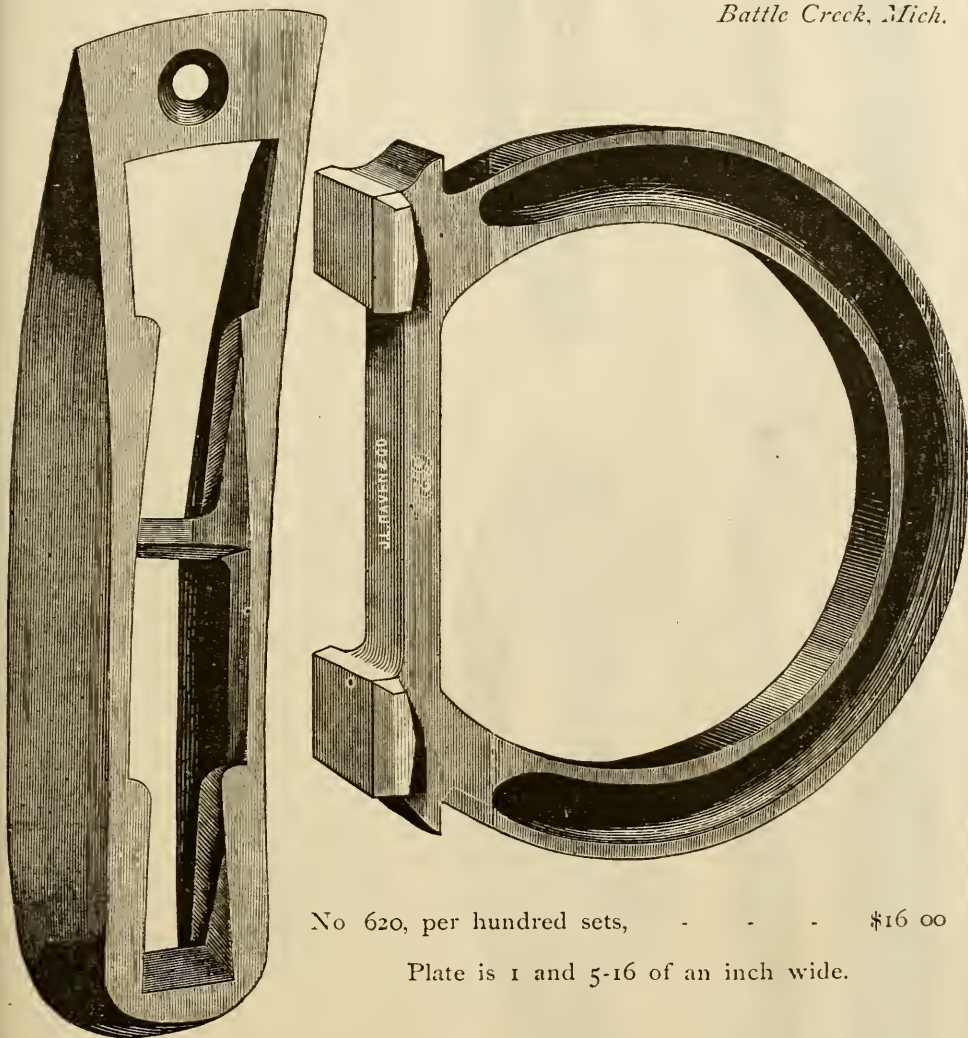
Use bit No. 10.

# PATENT DOVETAIL BED FASTENERS.

"We have used your Machine for the past two years for inserting Bed Fastenings, also as a Boring Machine, and we can fully endorse all that you say in regard to its benefits and general utility."

BUCK, HOYT & CO.,

*Battle Creek, Mich.*



No 620, per hundred sets, - - - \$16 00

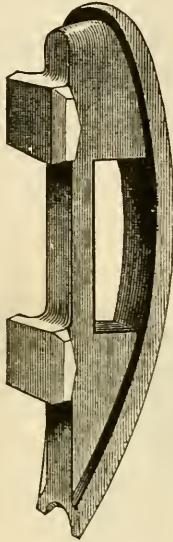
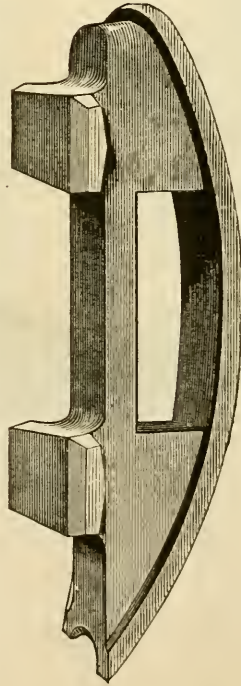
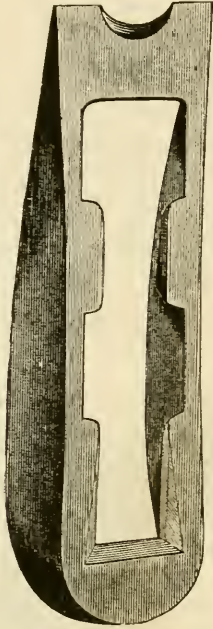
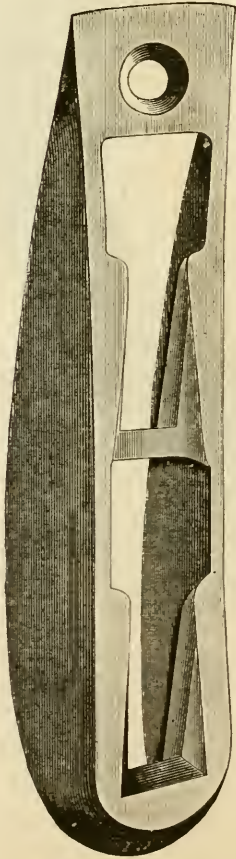
Plate is 1 and 5-16 of an inch wide.

Require about 3 gross  $\frac{3}{4}$ -inch No. 8 wood screws for 100 Bedsteads.

List price of screws, - - - - - per gross, 79 cents.  
Or 400 nails, costing about (for the lot), - - - - - 40 "

Use bit No. 10. On Wood Frame Machine use it with socket numbered 620.

# PATENT DOVETAIL BED FASTENERS.



No. 805.

per 100 sets, \$10 00

Plates 15-16 of an inch wide.

For rail iron use bit marked 805. For post iron use bit No. 5.

Require about 3 gross  $\frac{3}{4}$ -inch No. 8 wood screws for 100 Bedsteads.

List price of screws, - - - per gross, 79 cents.  
Or 800 nails, costing about (for the lot), - 80 cents.

No. 0800. - - - per 100 sets, \$6 50

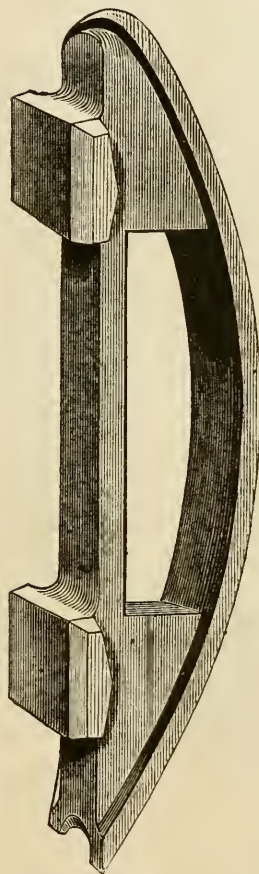
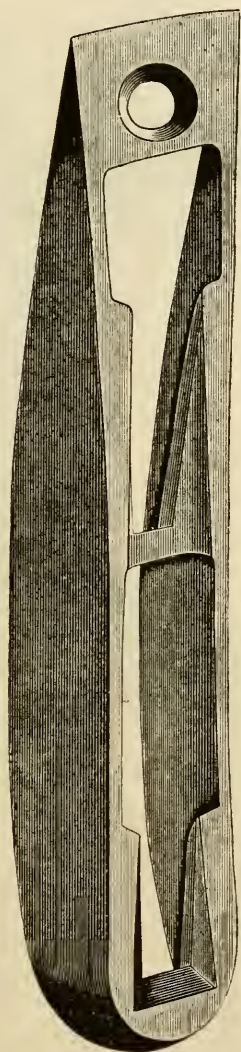
Plates 15-16 of an inch wide.

Use bit numbered 800 for rail iron; and No. 5 for post iron.

Require about 3 gross  $\frac{3}{4}$ -inch No. 8 wood screws for 100 Bedsteads.

List price of screws, per gross, 79 cents.  
Or 800 nails, costing about (for the lot), 80 cts.

# PATENT DOVETAIL BED FASTENERS.



No. 815, per 100 sets, - - - \$14 00

Plates are 15-16 of an inch wide.

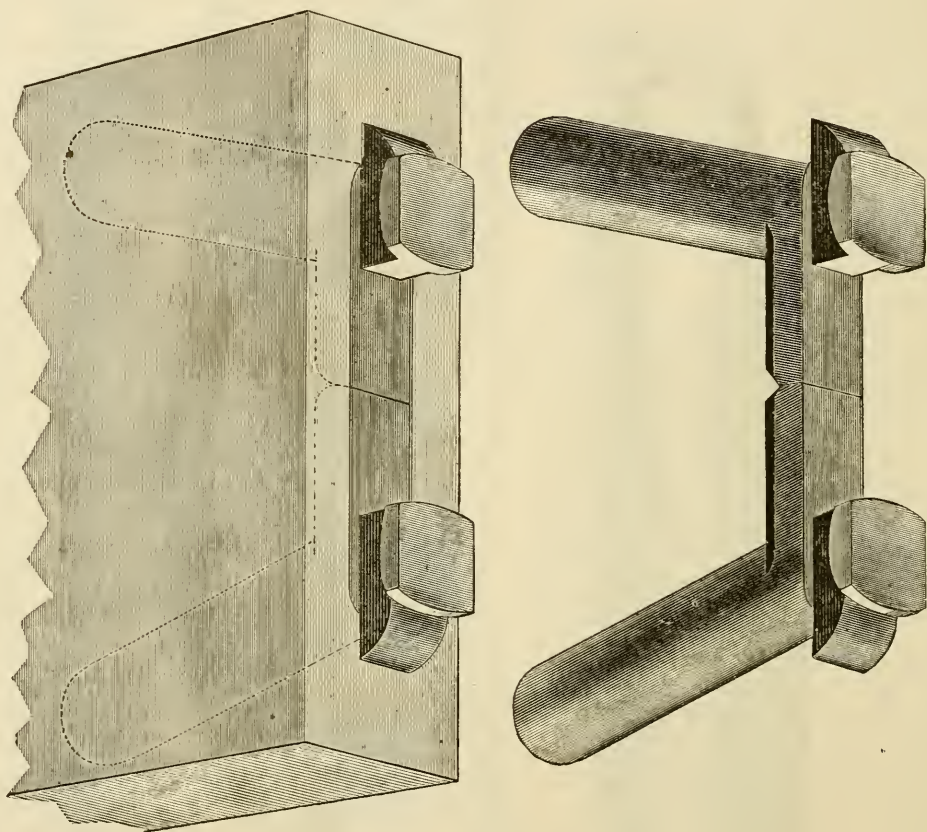
For rail iron use bit No. 815; for post iron use bit No. 5.

Require about 3 gross  $\frac{3}{4}$ -inch No. 8 wood screws for 100 Bedsteads.

List price of screws, - - - - - per gross, 79 cents.

Or 800 nails, costing about (for the lot), - - - So "

## BEDSTEAD RAIL FASTENER.



SERIES No. 1100.

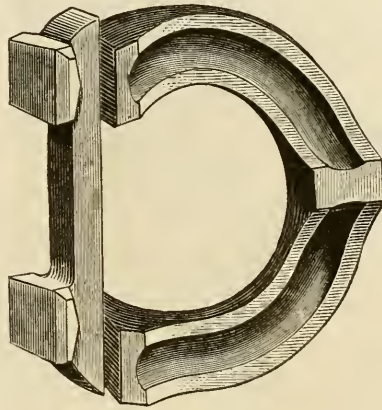
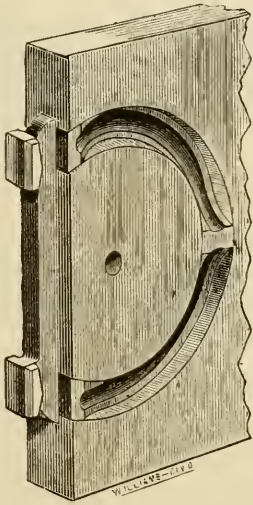
Numbered,	1100	1105	1110	1115	1120
Fitting Plates Numbered,	600	605	610	615	620

The Rail Fasteners illustrated above are cast in two pieces, and can be let in very rapidly on our Router; and, when driven home, remain perfectly secure, dispensing with the block necessary with Ring Fasteners; not only saving expense, but making the rails much more convenient for packing and shipping. As they are made to fit the No. 600 series of Post Fasteners, the change from them to these will cause no trouble.

Prices the same as for corresponding sizes of No. 600 series.

## BEDSTEAD RAIL FASTENERS.

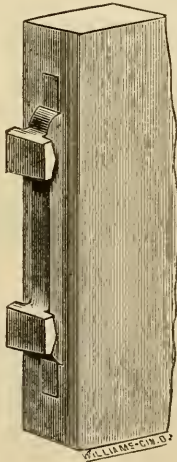
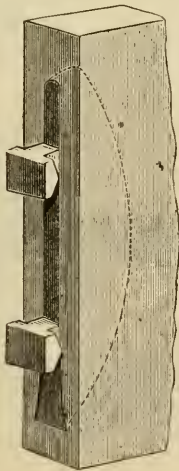
We have gotten up patterns of various sorts of Rail Irons to suit the styles of different sections, all of which fit *Dovetail Plates*, or our old *Plates Nos. 9, 10, &c.*



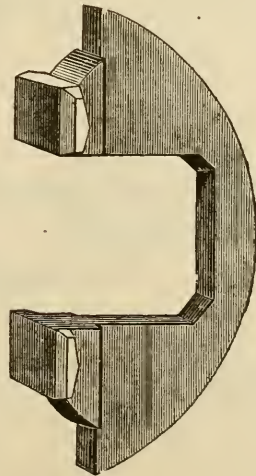
Series No. 900.

Numbered	00900,	0900,	900,	905,	910,	915,	920.
Fitting same plates as	00600,	0600,	600,	605,	610,	615,	620.

This style is used by manufacturers who make very light work, the posts in some cases being only 1½-inch stuff, making it necessary to throw the fastener nearer to the front, otherwise the rail would project. Prices the same as the corresponding numbers of series 600.



Series No. 800.



Series No. 1000.

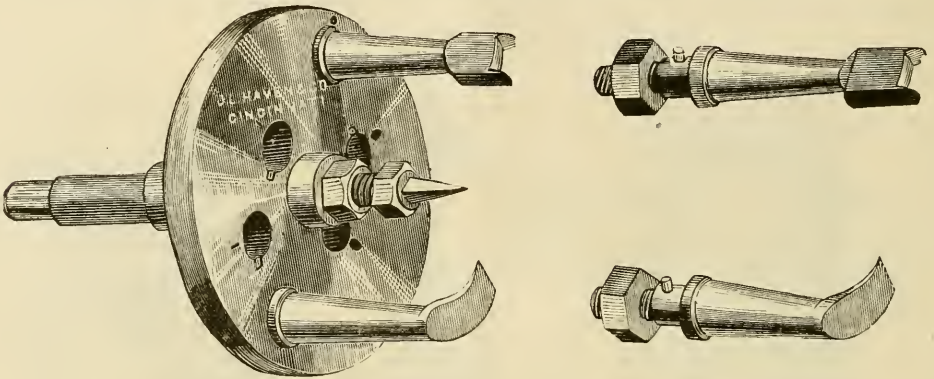
We make two styles of Rail Fasteners which dispense with the block entirely.

Series 800 we have illustrated full size on previous pages. By filling the hole with a small block of wood and driving in with glue they hold perfectly tight.

Series 1000 fit into a saw-kerf, and are fastened by driving in a small block with glue.

We can make them of malleable iron, ½ of an inch thick, if necessary, for very light work, such as kitchen safes, wardrobes, &c., to "knock down."

# PLATE AND CUTTERS FOR RING FASTENERS.

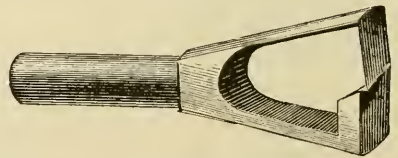
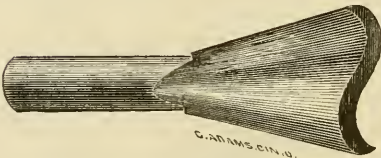


With two sets of Spurs and Cutters, for all sizes.

Shank made of any size to order, to fit any Boring Machine Mandrel, which can be readily adjusted to do the work.

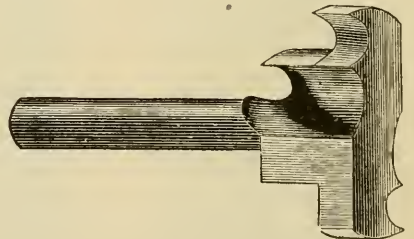
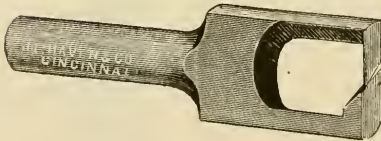
Price, with two sets of Bits, - - \$13 50 | Spur or Bit separately, each, - - \$2 00

## ROUTER BITS.



Open Bit.

[FOR PATENT DOVETAIL BED FASTENERS.]



For Flat Bed Fasteners.

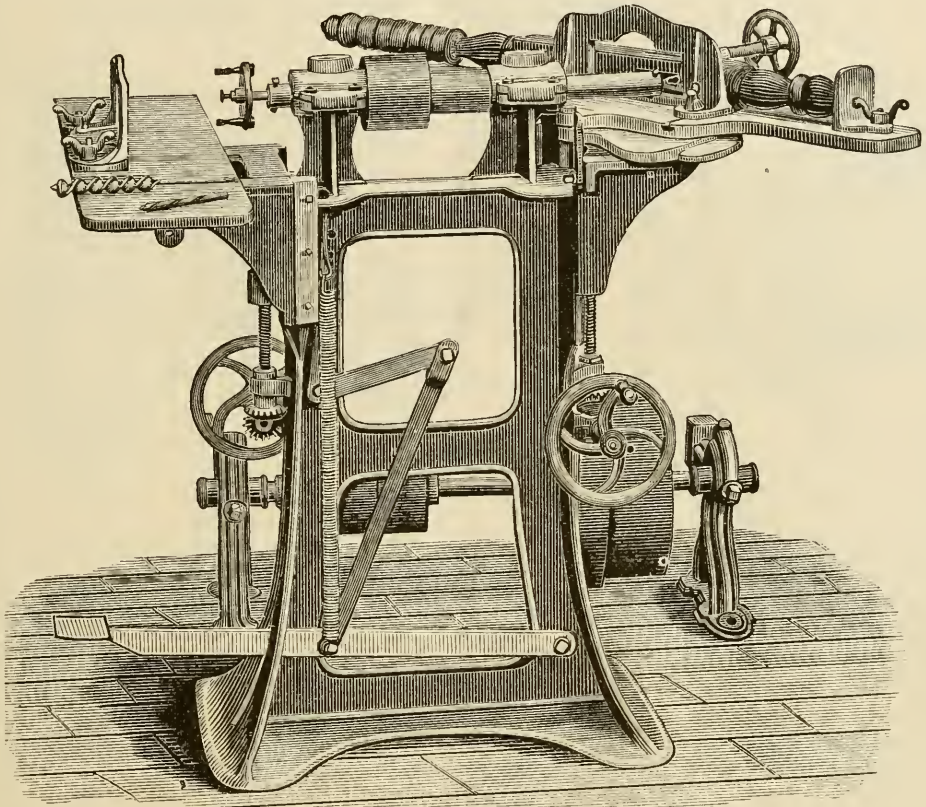
For Extension Table Slides.

Price each, for any shape, - - - - - \$3 50

In sharpening the Bits never touch them outside, always on the inner side of the cutting edge. If you change the shape, the castings will not exactly fit the mortise as they should do. They are made rather small, as it is better for only one edge to cut at a time, and you can make as tight or loose a fit as you please by throwing them more or less out of true with the set screws.

We sometimes have had complaints that the castings broke in driving in; the reason has been found in all cases to be because the mortises are made too small; a close fit is entirely unnecessary; the casting ought to slip in neatly without driving, and no matter how dry the lumber seems, it will shrink and hold it perfectly tight.

# IRON FRAME BORING AND ROUTING MACHINE.



Price as shown, including a set of Bits, for any sizes of Bed Fasteners  
you may select, - - - - - \$150 00

With Sliding Bed for routing straight mortises for flat plates (like No. 9),  
or for mortising bureaus, tables, bedsteads, &c., - - - - - \$175 00

## EXTENSION TABLE SLIDES.



These can be made very rapidly and perfectly on either of our machines. Passing the stuff three times through, forms both tongue and groove, though it makes lighter work for the bit to pass it over a grooving saw first. If preferred, the shape of tongue and groove can be varied to suit, some preferring a V shape—in which case use the No. 6 Routing Bit.

For this work the Sliding Bed is not necessary.

## Directions for Setting Up and Running THE IRON FRAME ROUTING MACHINE.

The machine is so simple as hardly to require any directions.

The pulleys on spindle are 3 and 5-inch diameter,  $4\frac{1}{4}$ -inch face, and on counter shaft 15 and 13-inch,  $4\frac{1}{4}$ -inch face; and the fast and loose pulleys 6-inch diameter,  $5\frac{1}{4}$ -inch face. Use 4-inch Belt for the spindle, cemented and *laced* (not rivited), and 5-inch for the counter shaft—making them as long as convenient, and keeping soft with castor oil dressing. Run the quick speed *not less* than 5,000 per minute. Speed is indispensable. You can drive from above, below, or from the floor, at your convenience, but from below is best, on account of the strain being downward instead of upward, on the caps of the journals—making the machine more durable. The machine will bore up to 2-inch holes, 6 inches deep, at any angle—the work advancing by the treadle and withdrawing automatically; in fact it has all the conveniences of a first-class boring machine besides the Routing attachment.

### For Routing Dovetail Fasteners.

For No.	0, - - -	use Bit marked	- - -	0 L (left hand)
" "	00600, - - -	" " "	- - -	05 L
" "	0600, - - -	" " "	- - -	5 L
" "	600, - - -	" " "	- - -	0 L
" "	605, - - -	" " "	- - -	5 L
" "	610, - - -	" " "	- - -	10 L
" "	615, - - -	" " "	- - -	5 L
" "	620, - - -	" " "	- - -	10 L
" "	0800, Rail Irons,	" " "	- - -	800 L
" "	805, " " "	" " "	- - -	805 L
" "	815, " " "	" " "	- - -	815 L

No. 05 Bit Routs for No. 00600.

No. 0 " " " No. 0 and No. 600 Fasteners.

No. 5 " " " No. 0600, No. 605 and No. 615.

No. 10 " " " No. 610 and No. 620.

It is convenient for a Factory to use Fasteners adapted to one size of Bit, if possible.

Set the Revolving Bed to the number of the Fastener you are using—say 605—tighten it there by the two thumb screws, and you have the proper depth of the mortise, provided you have the Bit set so as touch the bottom of its socket. Then set the stops to the same number (605), and you have the proper length of mortise.

We always ship the machine with one size of Bit in the mandrel, all ready for use.

The adjustment for Rail Irons is just as simple, except that there are no figures to show the position of the stops; you must adjust so that the rings fit in moderately tight.

### For Extension Table Slides, &c., &c.,

Use either the V Bit, No. 0, or the regular Extension Table Bit. You can cut the groove out of the solid wood, but it is better to run a groove first with a drunken saw or the sticking machine.

For Routing for flat plates, like No. 9, and Mortising for head boards, we furnish a Sliding Bed at an extra cost of \$25.00.

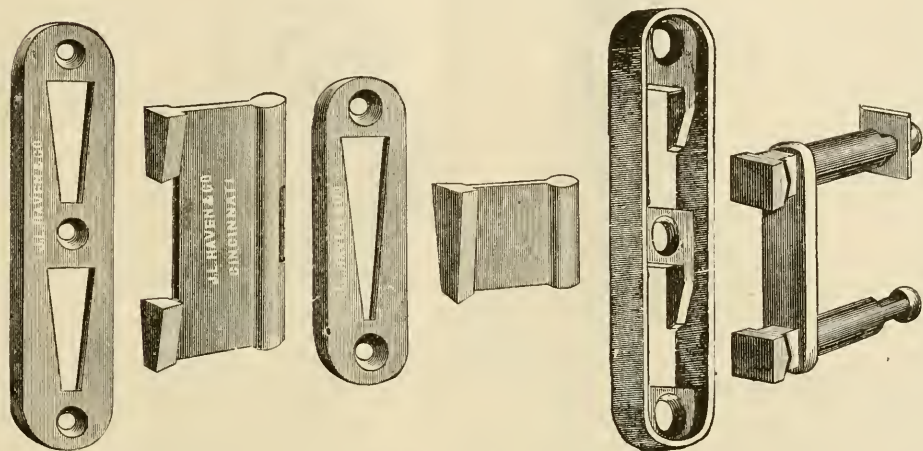
For head boards, one shop at least uses a hollow augur, making a round tenon, boring a corresponding hole for mortise.

The same shop does the mortising on bureaus, tables, chairs, &c., and another uses it as a Frizzer.

We can also adapt it for a Dovetailing machine—using the same Bits as for Bedstead Fasteners.

## BEDSTEAD FASTENERS.

List Price, 6 cents per pound.



Nos. 1 &amp; 2

Nos. 3, 4 &amp; 5

Nos. 7 &amp; 8

No. 1,	Plate	$1\frac{1}{2}$ by $7\frac{5}{8}$ inches;	weight per set, 5 lbs. 6 oz.;	Screws, $1\frac{1}{2}$ inch,	No. 14.
" 2,	"	$1\frac{1}{4}$ by $5\frac{3}{4}$	" " "	3 lbs. 2 oz.;	" $1\frac{1}{2}$ " " 12.
" 3,	"	$1\frac{5}{8}$ by $4\frac{1}{2}$	" " "	2 lbs. 7 oz.;	" $1\frac{1}{2}$ " " 14.
" 4,	"	$1\frac{1}{4}$ by $4\frac{1}{8}$	" " "	2 lbs.,	" $1\frac{1}{2}$ " " 13.
" 5,	"	$1\frac{1}{2}$ by $3\frac{1}{2}$	" " "	1 lb. 7 oz.;	" $1\frac{1}{2}$ " " 12.
" 7,	"	$1\frac{1}{4}$ by 6	" " "	3 lbs. 2 oz.;	" $1\frac{1}{2}$ " " 14.
" 8,	"	$1\frac{1}{4}$ by $4\frac{5}{8}$	" " "	2 lbs. 10 oz.;	" $1\frac{1}{2}$ " " 12.

Malleable Keys for Nos. 7 &amp; 8, 15 cents per pound.

Above and on the following pages we give illustrations of our old styles of Bed Fasteners, that are still in use, though fast being superseded by our *patent*.

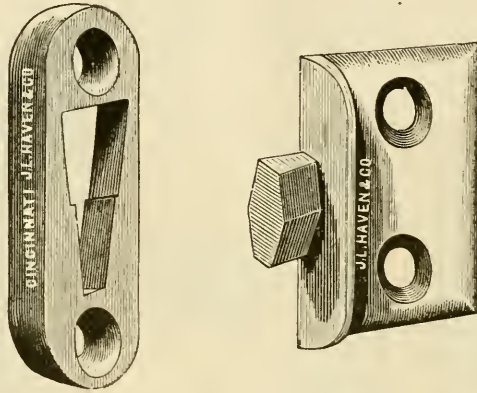
Of most of these we were the first, and for a long time the only, manufacturers, and later ones have copied as near as possible—to which we have no objection to make, it being desirable that all of a certain number should be interchangeable.

We have always taken the greatest care to have our castings perfect—each piece being fitted to a standard, so that all Fastenings fit each other.

On account of the extra pains we have taken to secure uniform good quality, we have charged more than others for them, and our customers have acknowledged the good policy of paying us the extra cost.

We have extended the cost of 100 sets of each sort, and the size and length, and price of screws usually sold with them, for your convenience in ordering.

# LOUNGE AND TRUNDLE-BED FASTENERS.



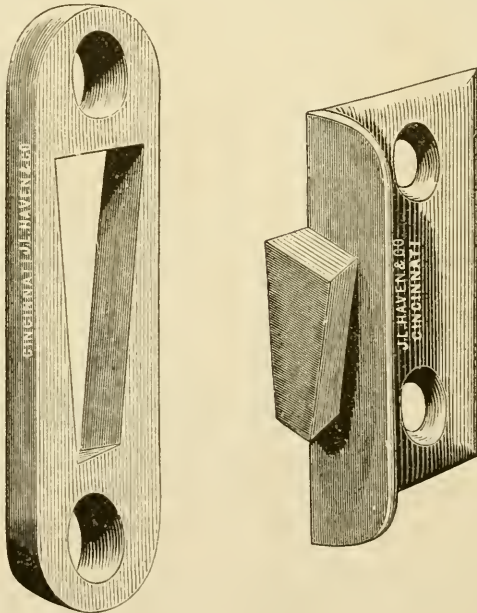
No. 6 1/2

Size of Plate, 7/8 by 2 inches. Weight per set, 12 ounces; per 100 sets, 72 pounds.

Price per pound, - - - - - 6 cents.

Cost per 100 sets, at 6 cents per pound, - - - - - \$4 32

Require sixteen 1 inch No. 9 Wood Screws to a set (4 connections); over 11 gross for 100 Bedsteads. List price of 1 inch No. 9 Screws, per gro., \$0 92



No. 9 1/2

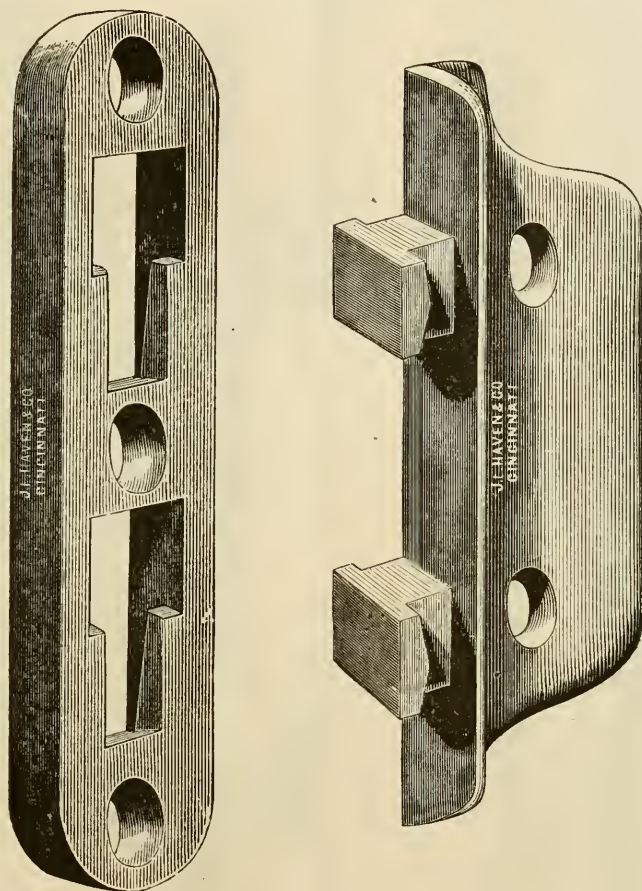
Size of Plate, 1 by 3 1/4 inches. Weight per set, 1 lb. 4 oz.; per 100 sets, 124 pounds.

Price per pound, - - - - - 6 cents.

Cost per 100 sets, at 6 cents per pound, - - - - - \$7 44

Require sixteen 1 1/4 inch No. 11 Wood Screws to a set (4 connections), over 11 gross for 100 Bedsteads. List price of 1 1/4 in. No. 11 Screws, per gro., \$1 21

## BEDSTEAD FASTENERS.



No. 9

Size of plate,  $1\frac{1}{4}$  by  $4\frac{3}{8}$  inches. Weight per set, 2 pounds 6 ounces;  
 Weight per 100 sets, 232 pounds.

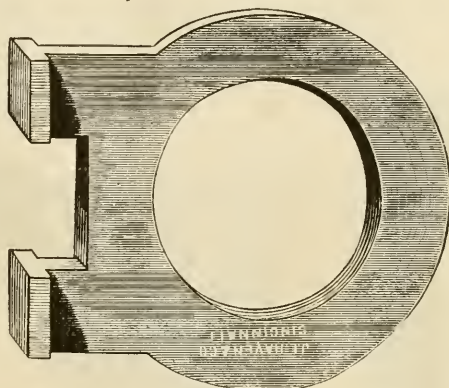
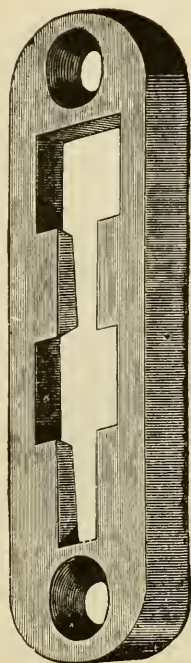
Price per pound, - - - - - 6 cents.  
 Cost per 100 sets, at 6 cents per pound, - - - - - \$13 92

Require twenty  $1\frac{1}{2}$  inch No. 12 Wood Screws to a set (4 connections);  
 14 gross for 100 Bedsteads.

List price of  $1\frac{1}{2}$  inch No. 12 Wood Screws, per gross, - - - - - \$1 44



## BEDSTEAD FASTENERS.



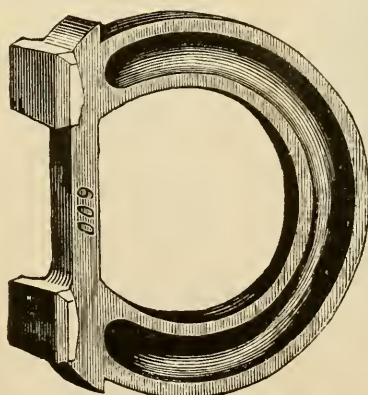
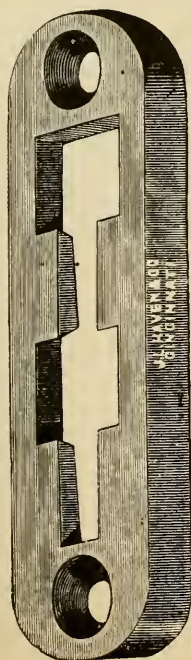
No. 50

Size of Plate,  $1\frac{1}{4}$  by  $3\frac{1}{2}$  inches. Weight per set, 1 pound 6 ounces; per 100 sets, 140 pounds.

Price per pound, - - - - - 6 cents.  
Cost per 100 sets, at 6 cents per pound, - - - - - \$8 40

Require eight  $1\frac{1}{4}$  inch No. 11 Wood Screws to a set; about 6 gross for 100 Bedsteads.

List price of  $1\frac{1}{4}$  inch No. 11 Screws, per gross, - - - \$1 21



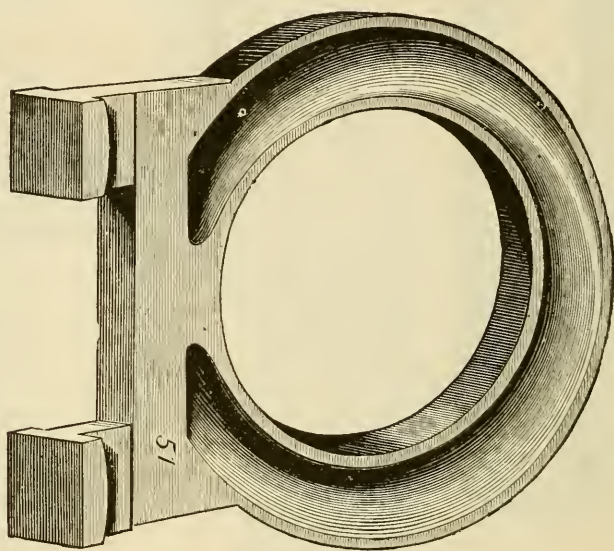
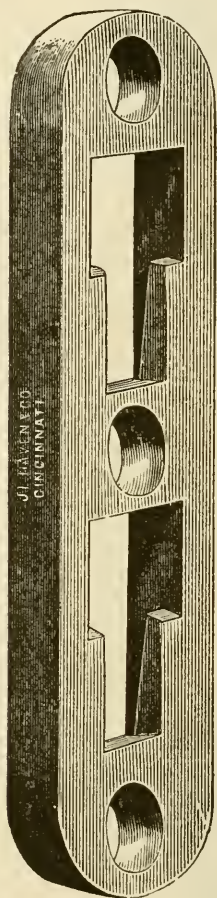
No. 150

Same size Plate as No. 50, but the Rail Fastener lighter, making 100 sets cost only - - - - - \$8 16

Cost of Screws, same as for No. 50.

There is an economy also in letting them in, the groove being routed nearer the end of rail so that no cutting whatever is necessary, and the straight side of the bar and projecting teeth outside effectually prevent the Fastener turning in the groove. The same size Router, precisely, is used as for No. 50, and the Bedsteads will be interchangeable with those having No. 50 Fasteners.

## BEDSTEAD FASTENERS.



No. 51

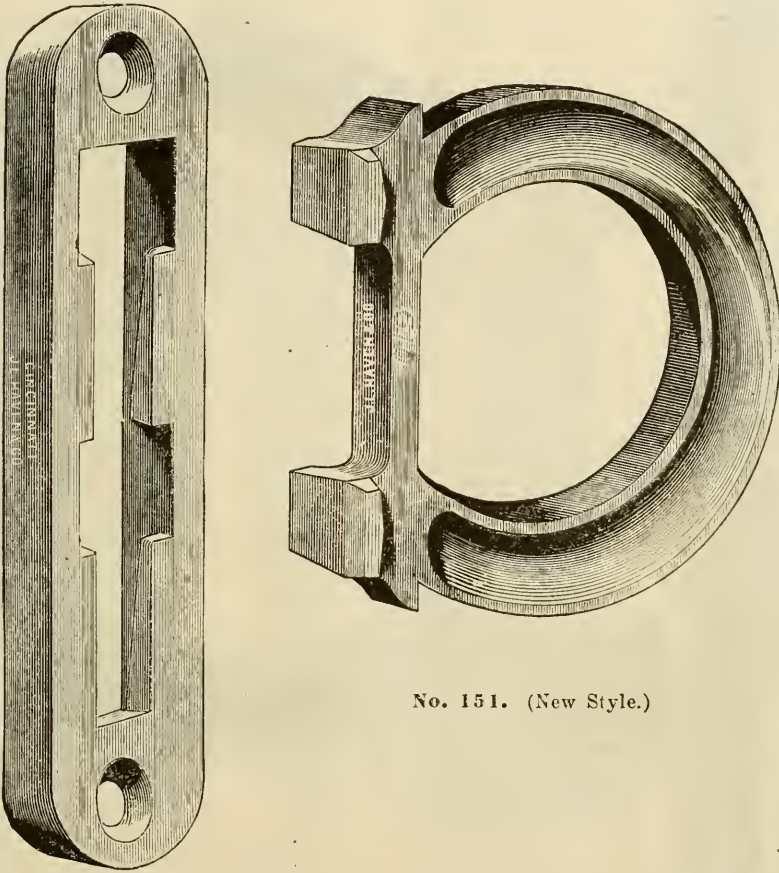
Size of Plate,  $1\frac{1}{4}$  by  $4\frac{5}{8}$  inches (same as No. 9, page 69). Weight per set, 2 pounds  
5 ounces; per 100 sets, 228 pounds.

Price per pound, - - - - - 6 cents.  
Cost per 100 sets, at 6 cents per pound, - - - - - \$13 68

Require twelve  $1\frac{1}{2}$  inch No. 12 Wood Screws to a set;  $8\frac{1}{2}$  gross for 100  
Bedsteads.

List price of  $1\frac{1}{2}$  inch No. 12 Screws, per gross, - - - - - \$1 44

## BEDSTEAD FASTENERS.



No. 151. (New Style.)

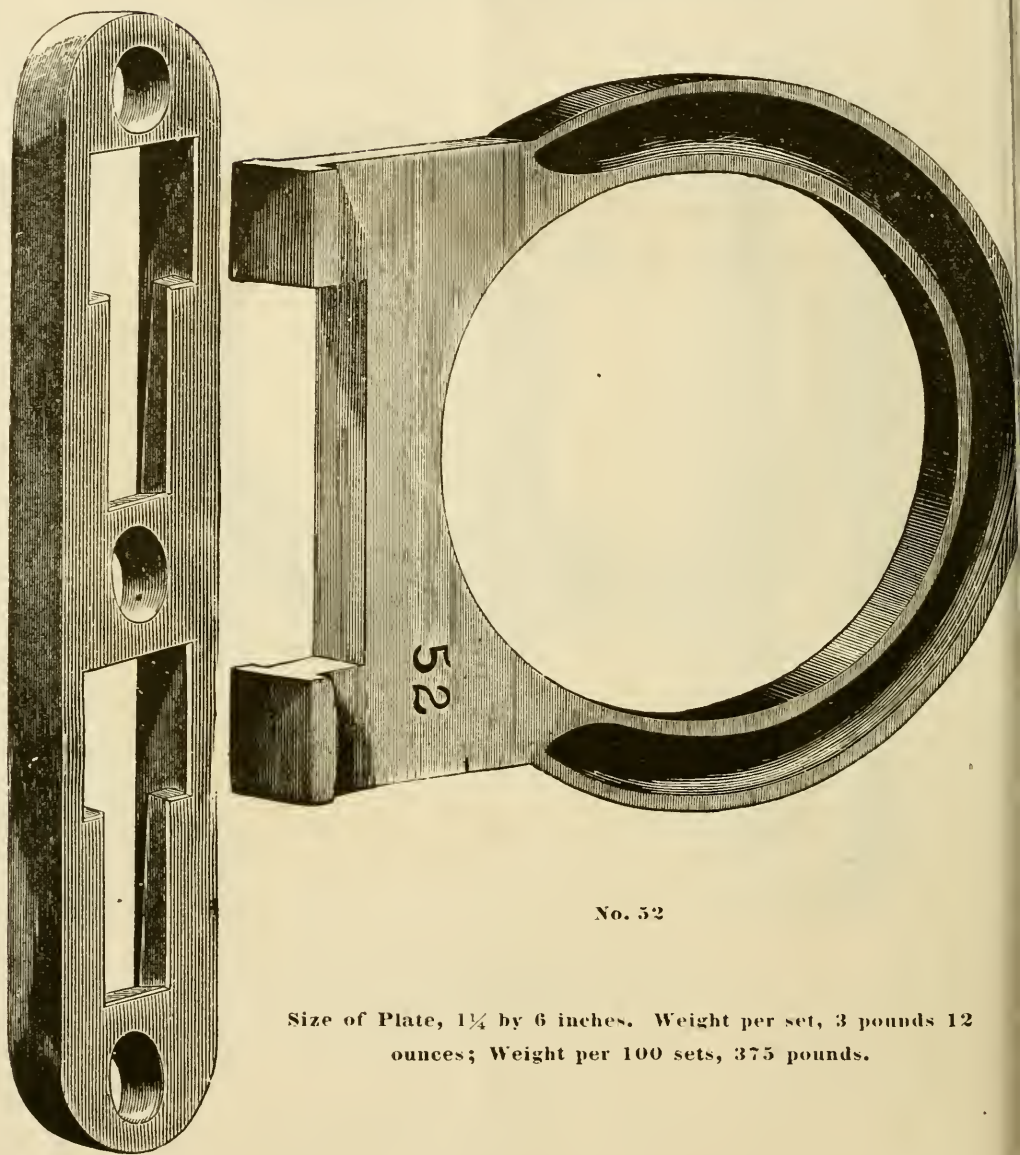
Size of Plate,  $1\frac{1}{4}$  by  $1\frac{1}{8}$  inches. Weight per set, 1 pound 4 ounces; per 100 sets, 185 pounds.

Price per pound, - - - - - 6 cents.  
 Cost per 100 sets, at 6 cents per pound, - - - - - \$12 75

This has the same advantages over 51 that 150 has over 50. The Plates (Post Fasteners), however, are not identical, No. 151 having only two screw holes.

Require eight  $1\frac{1}{2}$  inch No. 12 Screws to a set, 6 gross for 100 Bedsteads.  
 List price, per gross, - - - - - \$1 44

## BEDSTEAD FASTENERS.



No. 52

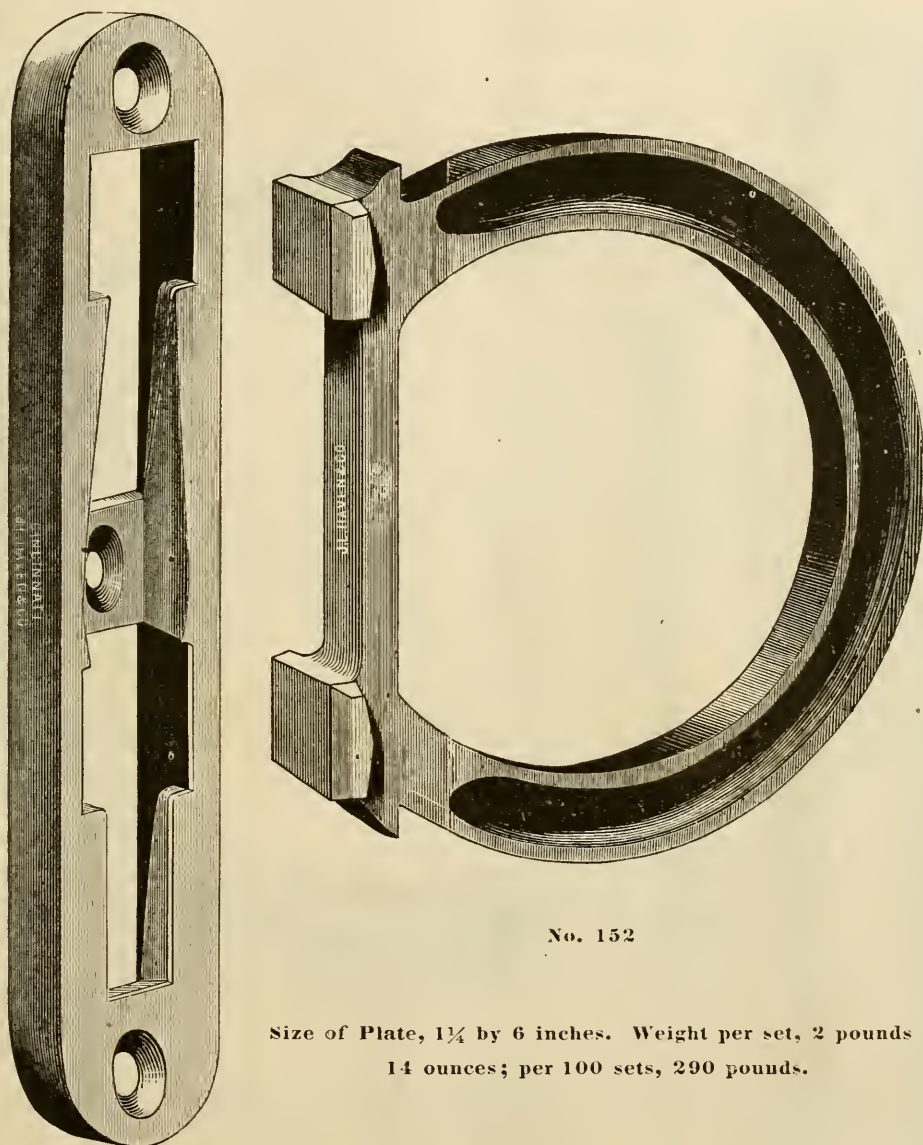
Size of Plate,  $1\frac{1}{4}$  by 6 inches. Weight per set, 3 pounds 12 ounces; Weight per 100 sets, 375 pounds.

Price per pound, - - - - - 6 cents.  
 Cost per 100 sets, at 6 cents per pound, - - - - - \$22 50

Require twelve  $1\frac{1}{2}$  inch No. 13 Screws to a set; about  $8\frac{1}{2}$  gross for 100 Bedsteads

List price of  $1\frac{1}{2}$  inch No. 13 Screws, per gross, - - - - - \$1 60

## BEDSTEAD FASTENERS.



No. 152

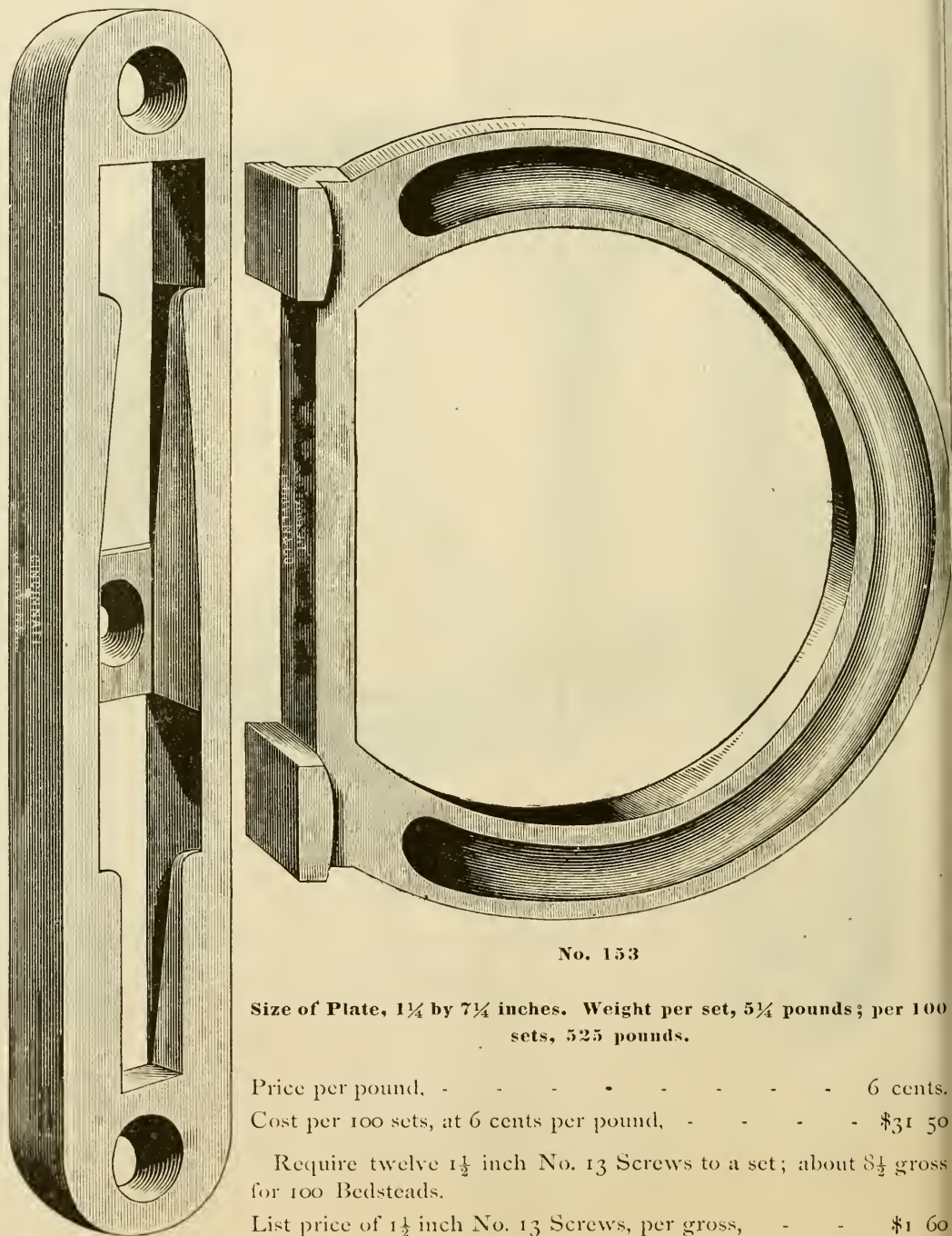
Size of Plate,  $1\frac{1}{4}$  by 6 inches. Weight per set, 2 pounds  
14 ounces; per 100 sets, 290 pounds.

Price per pound, - - - - - 6 cents.  
Cost per 100 sets, at 6 cents per pound, - - - - - \$17 40

Require twelve  $1\frac{1}{2}$  inch No. 13 Screws to a set; about  $8\frac{1}{2}$  gross for 100 Bedsteads.

List price of  $1\frac{1}{2}$  inch No. 13 Screws, per gross, - - - - - \$1 60

## BEDSTEAD FASTENERS.



No. 153

Size of Plate,  $1\frac{1}{4}$  by  $7\frac{1}{4}$  inches. Weight per set,  $5\frac{1}{4}$  pounds; per 100 sets, 525 pounds.

Price per pound, - - - - - 6 cents.

Cost per 100 sets, at 6 cents per pound, - - - - - \$31 50

Require twelve  $1\frac{1}{2}$  inch No. 13 Screws to a set; about  $8\frac{1}{2}$  gross for 100 Bedsteads.

List price of  $1\frac{1}{2}$  inch No. 13 Screws, per gross, - - - \$1 60

# CABINET HARDWARE.

Revised List of Casters agreed upon by a Convention of Manufacturers, January 15th, 1873.

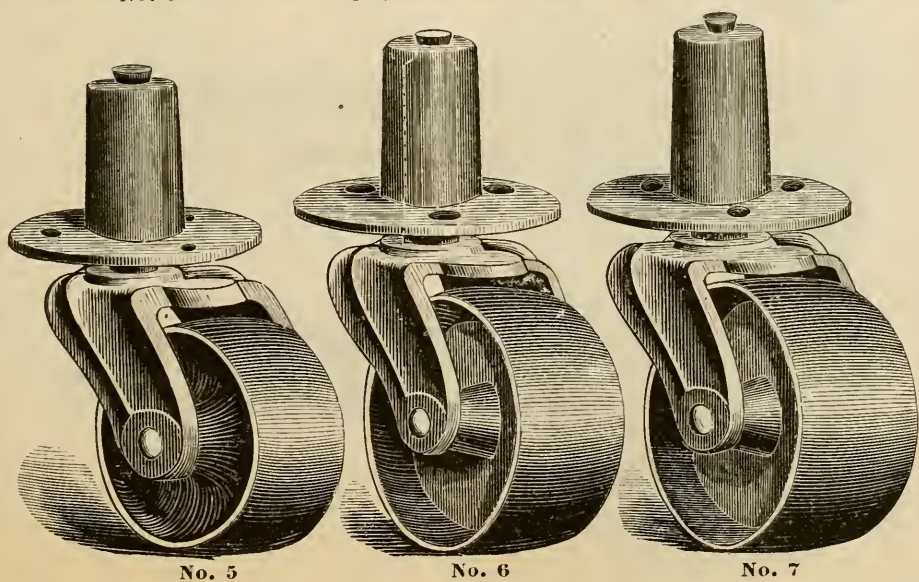
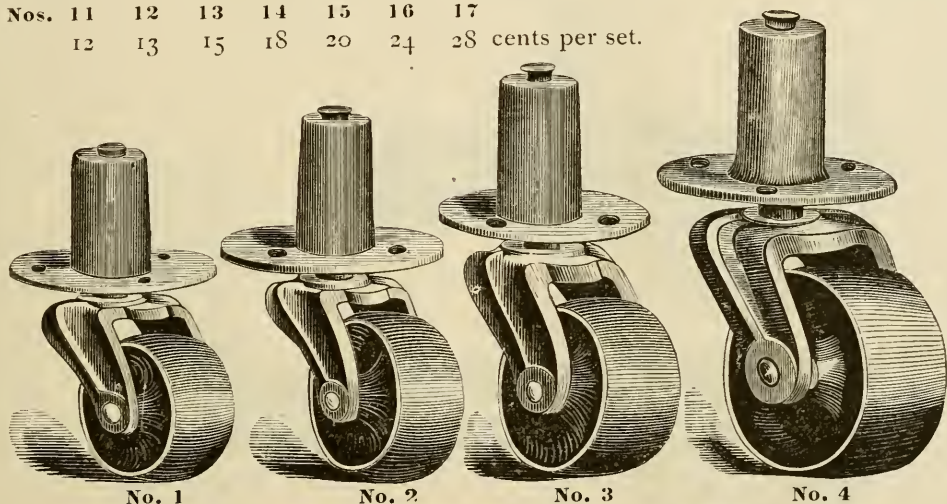
PATENT PLATE CASTERS, Long Wrought Pivots.

All Iron, Coppered.

Nos. 1	2	3	4	5	6	7
10	11	12	15	17	20	28 cents per set.

Porcelain Wheels, Coppered Iron Stems and Horns.

Nos. 11	12	13	14	15	16	17
12	13	15	18	20	24	28 cents per set.



## BED CASTERS.

## ALL PATENT RIBBED.

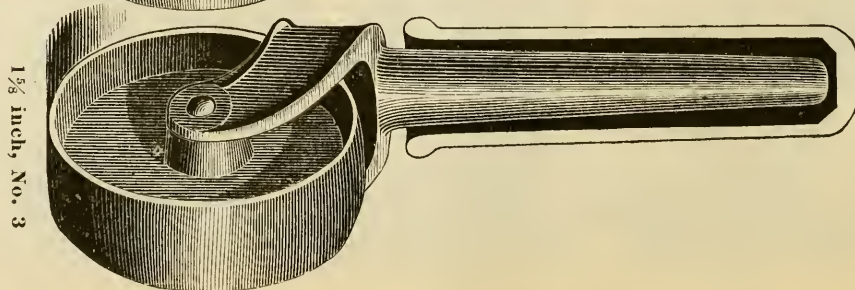
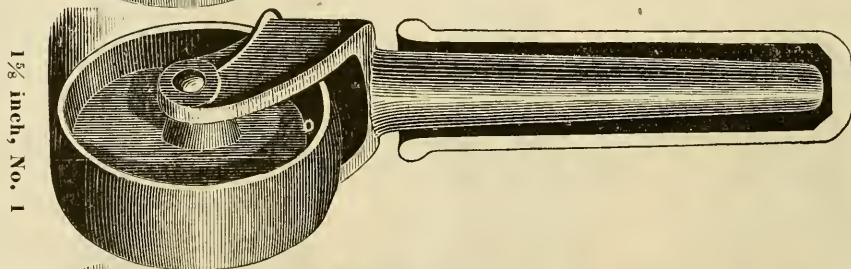
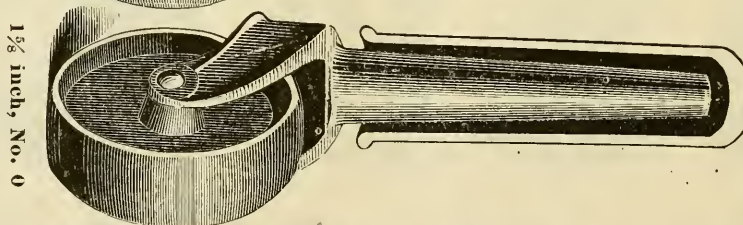
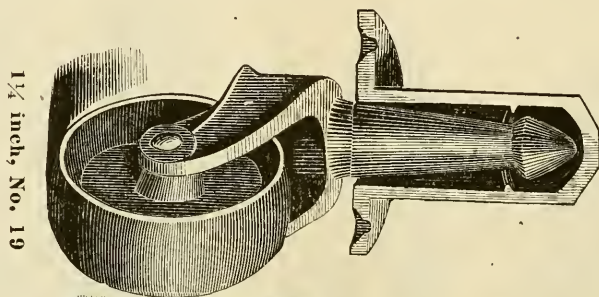
~~Old~~ Nos. 1 and 2, are New Nos. 0 and 1.

All Iron, Coppered.

Size, $1\frac{1}{4}$ inch, No. 19	$1\frac{1}{8}$ inch, No. 0	$1\frac{1}{2}$ inch, No. 1	$1\frac{1}{8}$ inch, No. 3
Sockets, 9-16	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$ inch.
Per set, 11	$10\frac{1}{2}$	12	$13\frac{1}{2}$ cents.

Porcelain Wheels, Coppered Horns.

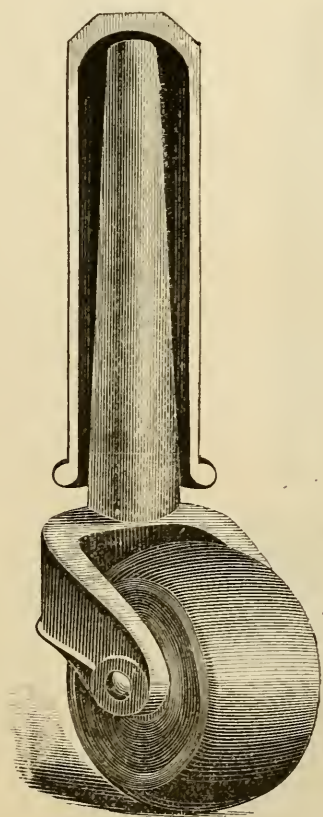
Size, $1\frac{1}{4}$ inch, No. 19	$1\frac{1}{8}$ inch, No. 0	$1\frac{1}{2}$ inch, No. 1	$1\frac{1}{8}$ inch, No. 3
Per set, 18	18	19	22 cents.



GLOBE WHEEL BED CASTERS.

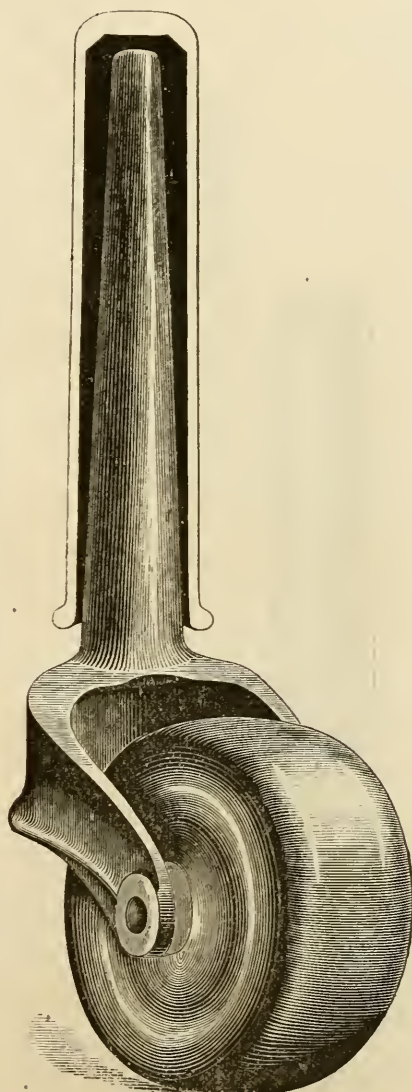
ALL PATENT RIBBED.

		1½	2 inch.
Porcelain Wheels, Coppered Horns, - -	33	45 cents per set.	



1½ inch Globe.

PORCELAIN WHEELS.



2 inch Globe.

PORCELAIN WHEELS.

## BED CASTERS.

## ALL PATENT RIBBED.

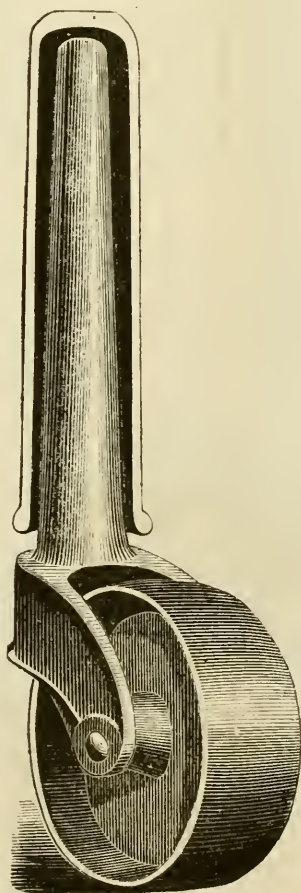
~~Old~~ Nos. 1 and 2, are New Nos. 0 and 1.

All Iron, Coppered.

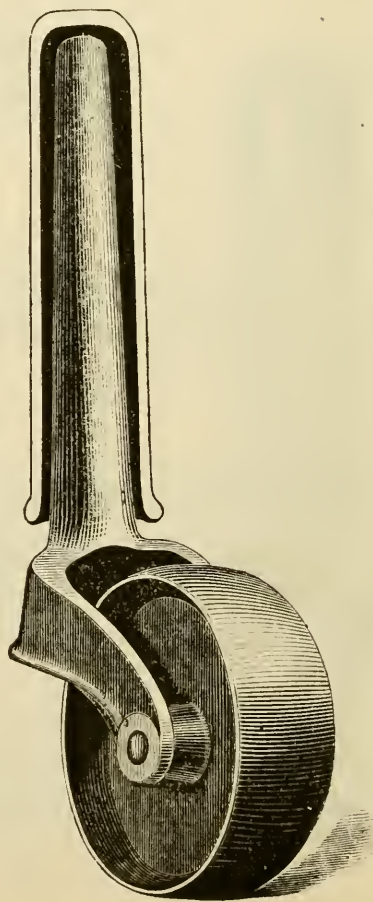
Size,	2 inch, No. 0	2 inch, No. 1	2 inch, No. 3	2 inch, No. 4
Sockets,	9-16	9-16	$\frac{3}{4}$	$\frac{3}{4}$ inch.
Per set,	15	16	18	20 cents.

Porcelain Wheels, Coppered Horns.

Size,	2 inch, No. 0	2 inch, No. 1	2 inch, No. 3	2 inch, No. 4
Per set,	23	25	25	35 cents.



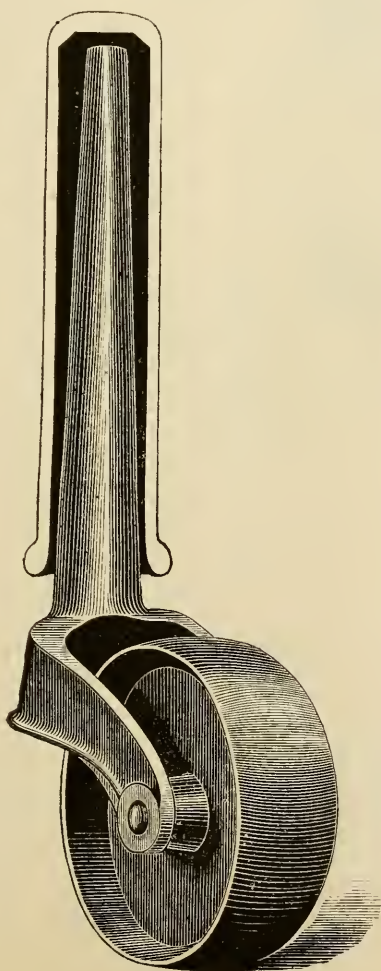
2 inch, No. 0



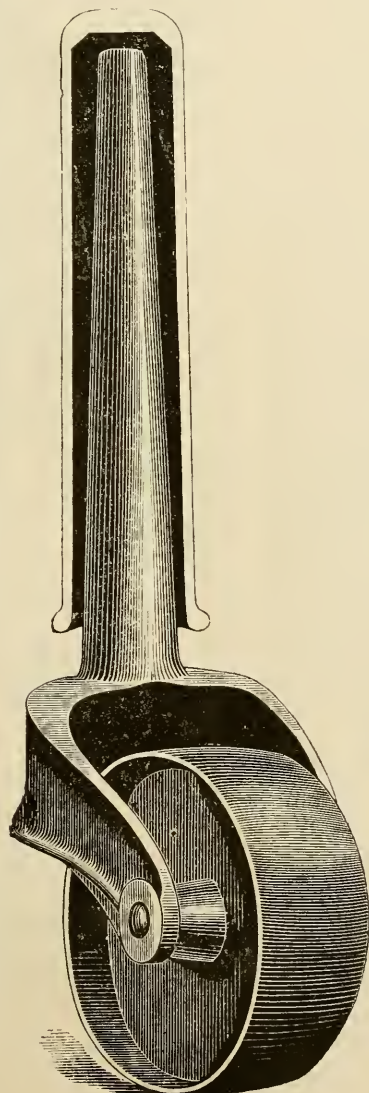
2 inch, No. 1

BED CASTERS.  
**ALL PATENT RIBBED.**

LIST OF PRICES ON PREVIOUS PAGE.

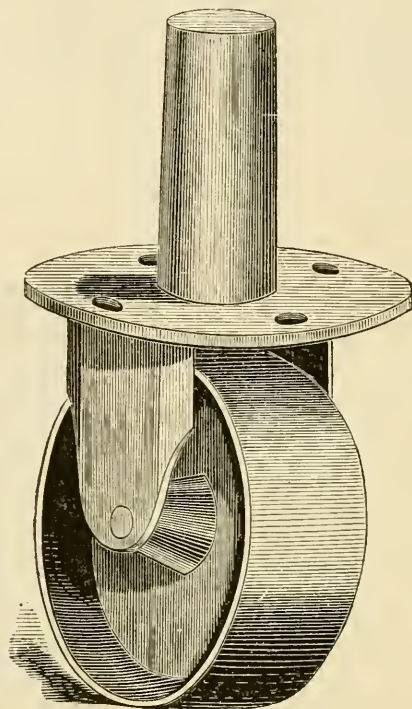


2 inch, No. 3



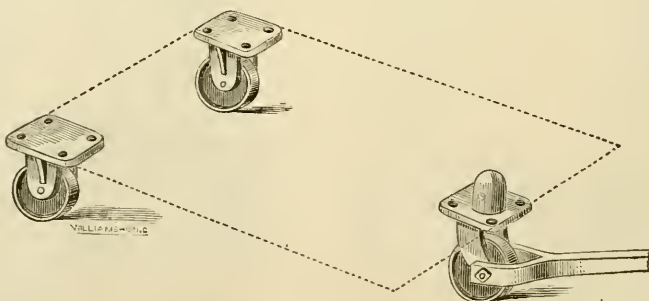
2 inch, No. 4

## STEAMBOAT EXTENSION TABLE CASTERS.



2 inch, all Iron, Coppered, - - - - - 37 cents per set.

## STORE TRUCK CASTERS.

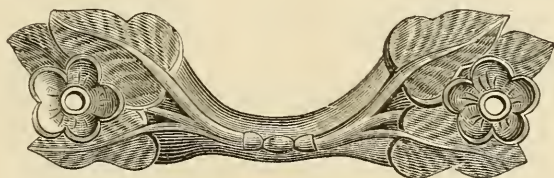


- No. 1, Stem Swivel Caster, with flanged plate, to screw on corner of a box; wheel,  $2\frac{1}{2}$  in. diameter; weight, each,  $3\frac{1}{2}$  pounds; price, each, \$0 50
- No. 3, Plate Swivel Caster (like cut); wheel, 3 inches diameter; weight, each, 4 pounds; price, - - - - - each, 80
- No. 5, Plate Swivel Caster (like cut); wheel, 5 inches diameter; weight, each,  $9\frac{1}{2}$  pounds; price, - - - - - each, 1 25
- No. 7, Socket Swivel Caster, for the leg of a heavy table or bench; socket, 2 inches deep,  $3\frac{1}{4}$  inches square inside; wheel, 5 inches diameter; weight, each,  $10\frac{1}{2}$  pounds; price, - - - - - each, 1 25

A tongue can be attached to either size, to order, but is usually unnecessary.

# IRON BUREAU AND DRAWER HANDLES.

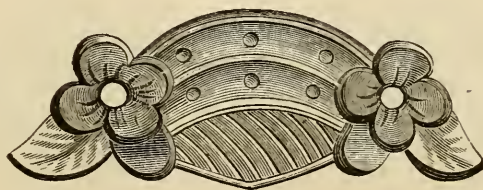
NOT JAPANNED.



Nos.	1	2	3
Length,	3½	4¾	5¾ inches.
Per dozen,	30	35	45 cents.



Nos.	4	5	6
Length,	3½	4¾	5¾ inches.
Per dozen,	30	35	40 cents.



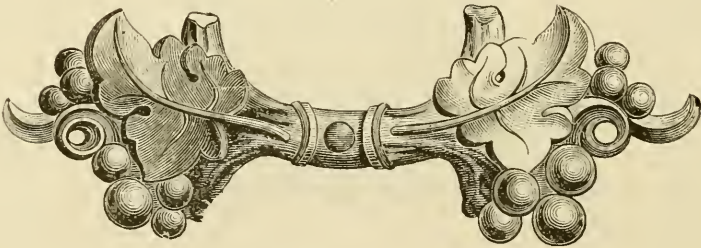
Nos.	7	8
Length,	4	5 inches.
Per dozen,	45	60 cents.

# IRON BUREAU AND DRAWER HANDLES.

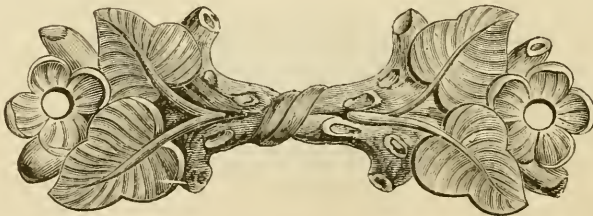
NOT JAPANNED.



Nos.	9	10	11
Length.	4¼	5¾	6½ inches.
Per dozen.	45	65	70 cents.



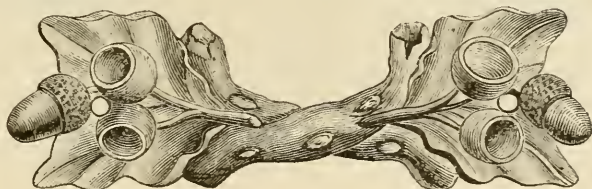
Nos.	12	13	14
Length.	5	6	7 inches.
Per dozen.	45	70	75 cents.



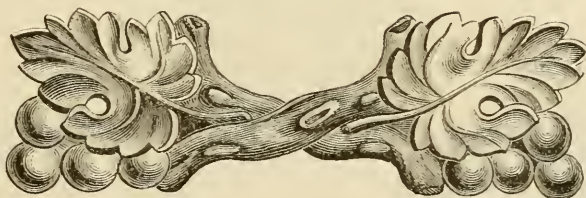
Nos.	15	16	17	18
Length.	4	5	5¾	6¼ inches.
Per dozen.	45	60	70	80 cents.

## IRON BUREAU AND DRAWER HANDLES.

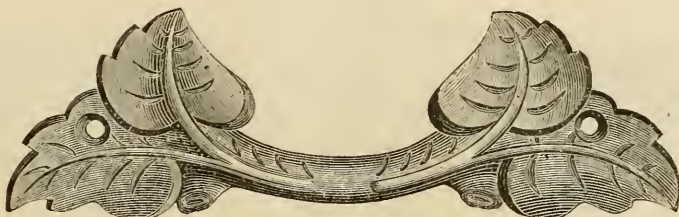
NOT JAPANNED.



Nos.	19	20	21
Length,	4¼	5¼	6 inches.
Per dozen.	45	70	75 cents.

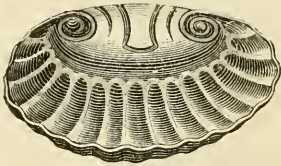


Nos.	22	23	24
Length,	4	5¼	6 inches.
Per dozen.	55	70	75 cents.



Nos.	25	26	27
Length,	3½	5	6 inches.
Per dozen.	40	50	60 cents.

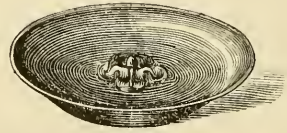
# HAT RACK DISHES.



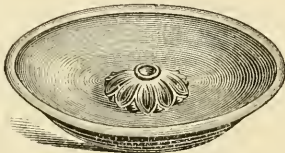
No. 1. OVAL.

Size,  $8\frac{1}{2}$  by  $6\frac{1}{2}$  inches.

Plain,	-	-	-	each,	20 cents.
Japanned,	-	-	-	"	25 "
Bronzed,	-	-	-	"	40 "

No.  $1\frac{1}{2}$ .Diameter,  $7\frac{1}{4}$  inches.

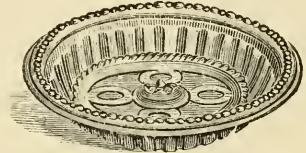
Plain,	-	-	-	each,	22 cents.
Japanned,	-	-	-	"	30 "
Bronzed,	-	-	-	"	40 "



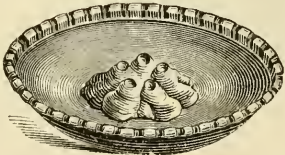
No 2.

Diameter,  $8\frac{1}{4}$  inches.

Plain,	-	-	-	each,	25 cents.
Japanned,	-	-	-	"	30 "
Bronzed,	-	-	-	"	45 "

No.  $2\frac{1}{2}$ .Diameter,  $7\frac{1}{2}$  inches.

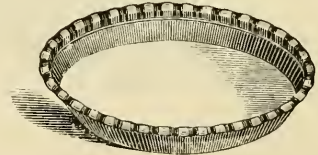
Plain,	-	-	-	each,	30 cents.
Japanned,	-	-	-	"	35 "
Bronzed,	-	-	-	"	50 "



No. 3.

Diameter, 8 inches.

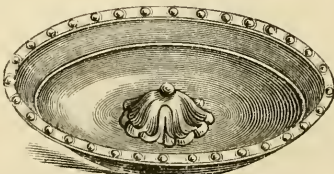
Plain,	-	-	-	each	30 cents.
Japanned,	-	-	-	"	35 "
Bronzed,	-	-	-	"	50 "



Ring for No. 3.

Diameter, 8 inches.

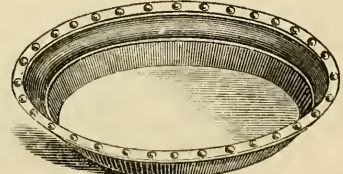
Plain,	-	-	-	each,	15 cents.
Japanned,	-	-	-	"	20 "
Bronzed,	-	-	-	"	25 "



No. 4.

Diameter, 9 inches.

Plain,	-	-	-	each,	40 cents.
Japanned,	-	-	-	"	50 "
Bronzed,	-	-	-	"	65 "

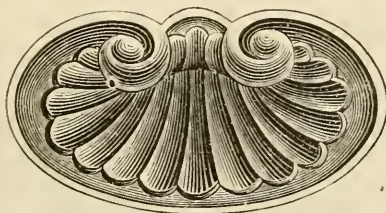


Ring for No. 4.

Diameter, 9 inches.

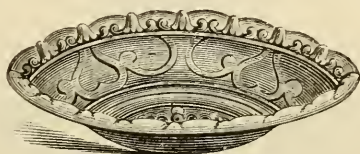
Plain,	-	-	-	each,	20 cents.
Japanned,	-	-	-	"	25 "
Bronzed,	-	-	-	"	35 "

## HAT RACK DISHES.



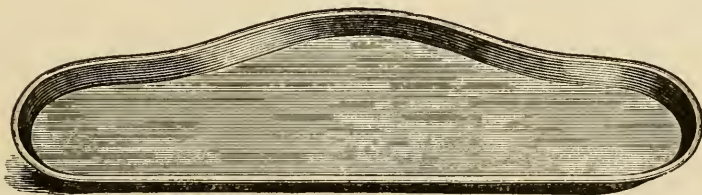
No. 5—OVAL. Size, 12 by 7 inches.

Plain,	-	-	-	-	-	each, 40 cents.
Japanned,	-	-	-	-	-	" 50 "
Bronzed,	-	-	-	-	-	" 75 "



No. 6—OVAL. Size, 11 by 8 inches.

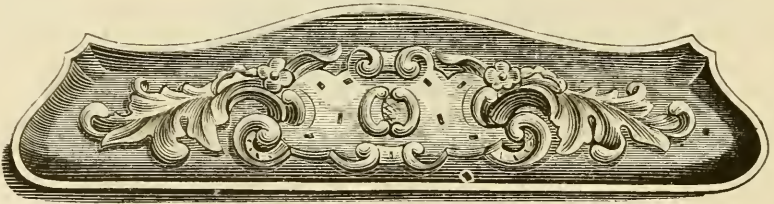
Plain,	-	-	-	-	-	each, 45 cents.
Japanned,	-	-	-	-	-	" 55 "
Bronzed,	-	-	-	-	-	" 75 "



No. 7. Size, 21 by 9¼ inches.

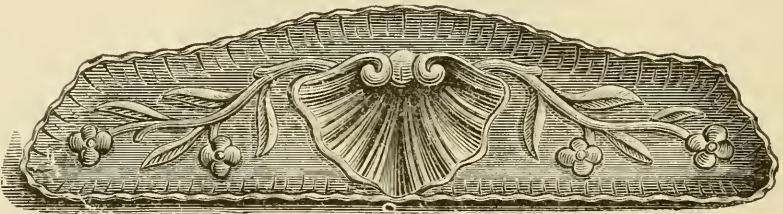
Plain,	-	-	-	-	-	each, 70 cents.
Japanned,	-	-	-	-	-	" 80 "
Bronzed,	-	-	-	-	-	" \$1 00

# HAT RACK DISHES.



No. 8. Size, 25 by 10 inches.

Plain,	-	-	-	-	-	-	each, \$1 05
Japanned,	-	-	-	-	-	-	" 1 20
Bronzed,	-	-	-	-	-	-	" 1 75



No. 9. Size, 24 by 10 inches.

Plain,	-	-	-	-	-	-	each, \$1 05
Japanned,	-	-	-	-	-	-	" 1 20
Bronzed,	-	-	-	-	-	-	" 1 75

When ordering, customers will please state definitely the NUMBER of the dish as given above: and also whether Plain, Japanned or Bronzed are wanted.

By the exercise of a little care on these points, much trouble and unnecessary delay may be avoided.

## COFFIN HANDLES.



No. 1, Large Handle.



No. 3.

No. 2, Small Handle.

Nos.	1	2	3	
Japanned, -	\$1 40	1 30	1 50	dozen pairs
Bronzed, - -	1 70	1 50	1 85	" "

## HEAD BOARD HOOKS AND SCREWS.



Malleable, per set, 4 connections, for one Bedstead, Japanned, - - 12 cents.  
 " per pound, in bulk, Japanned, in lots of 100 pounds, - 15 "

100 sets weigh about 50 pounds, and they will be found far more satisfactory than the common cast usually sold, and as cheap, because lighter.

## SCREW HAT HOOKS.



GIMLET POINTED WROUGHT SCREWS.

	2½	3	3½ inches, (besides Screw).
Japanned, \$0 95		1 20	1 50 per gross.

## LAMP HOOKS.



WITH GIMLET POINTED WROUGHT SCREWS.

Nos.	1	2
Length, 2¾		1¾ inches.
Japanned, \$2 50		1 80 per gross.

## COAT AND HAT HOOKS.



No. 1



No. 2



No. 3



No. 3½



No. 4



No. 5



No. 6



No. 7



No. 10



No. 11



No. 12

Nos.	1	2	3	3½	4	5	6	7	10	11	12
Length, 4½	4	3¾	3½	3½	3	4	3½	3	3½	4 inches.	
No.	8	8			8	8	8	8	8	8 Screws.	
Weight, 43½	38½	29	16½	17	19	35	19½	14¾	21	28½ lbs. p. gro.	
Jap'd, \$4	35	3 85	2 90	1 65	1 70	1 90	3 50	1 95	1 45	2 10	2 85 per gro.
Cop'd, 4	50	4 00	3 15	1 90	1 85	2 15	3 75	2 10	1 60	2 25	3 10 " "

## HOTEL OR SCHOOL HOUSE HOOKS.

VERY HEAVY AND STRONG.



No. 1



No. 2

No. 1.	Length 3 ins., weight 42½ lbs. per gro., for No. 9 Screws, Jap'd.	\$4 25
" 2.	" 3 " 26 " " " 9 " " "	2 65

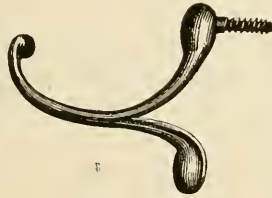
Per gross.

## WARDROBE HOOKS.



SINGLE.

Nos.	SINGLE		
	1	2	3
Japanned, -	\$0 45	60	80
Coppered, -	50	66	88
No. of Screws,	8	8	8
Weight per gross,	4¼	5¼	7¼



BRACED.

	BRACED			
	4	5	6	60
	90	1 05	1 50	90
	1 00	1 15	1 65	
				8
	9	10¼	15	9

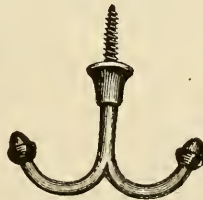
## CEILING WARDROBE HOOKS.

## WROUGHT SCREWS.



SINGLE.

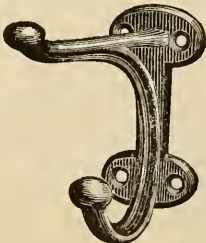
Weight,	14¼ lbs. per gross.
Price, Japanned,	\$2 00 "
" Coppered,	2 25 "



DOUBLE.

Weight,	18 lbs. per gross.
Price, Japanned,	\$2 50 "
" Coppered,	2 75 "

## HARNESS HOOKS.



No. 1. DOUBLE.

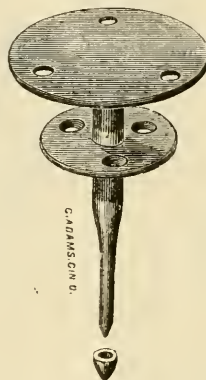
Length,	8 inches.
Weight,	12½ lbs. per dozen.
No.	12 Screws.
Japanned,	\$1 25 per dozen.



No. 2. SINGLE.

Length,	8 inches.
Weight,	12½ lbs. per dozen.
No.	12 Screws.
Japanned,	\$1 25 per dozen.

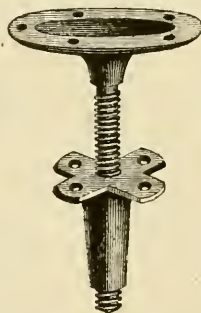
## STOOL PIVOTS.



No. 2

No. 2, for Office Stools, 9 inches long, - - - - per dozen, \$3 00

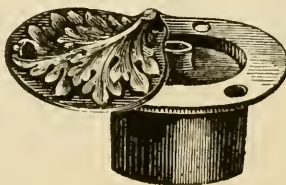
## CHAIR AND STOOL SCREWS.



WROUGHT SCREWS.

No. 1,  $\frac{3}{4}$  inch iron, 8 inches long, to raise 4 inches, - - - per dozen \$6 00  
 " 2, 1 " " 8 " " " 4 " - - - " 9 00

## INK STANDS—for School Desks.



Complete with Bottles, - - - - per dozen, \$3 00  
 Extra Bottles, if ordered, - - - - " 50

CARD TABLE PLATES.



No. 17. SQUARE.

Weight of 100 pieces, 21 lbs.



No. 18. OBLONG.

Weight of 100 pieces, 13½ lbs.

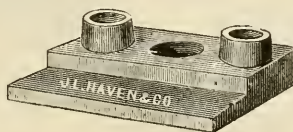
Price per pound, either pattern, - - - - - 7 cents.

EXTENSION TABLE STOPS.



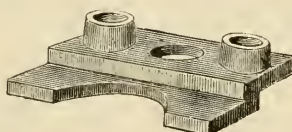
No. 19

Weight of 100, 15 lbs.



No. 20

Weight of 100, 15 lbs.



No. 21

Weight of 100, 12 lbs.

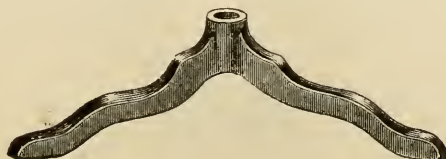
Price per pound, either pattern, - - - - - 7 cents.

WARDROBE SCREWS.



Complete, threaded, with Nut and Washer, - - - - - per 100, \$5 00

TOWEL RACK FEET.

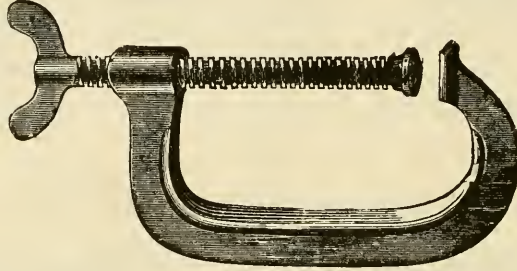


JAPANNED.

10½ inches long, 3½ inches high, weigh 1 lb. each, - - - - - 8 cents.

# WARNER'S HAND CLAMP SCREWS.

HIGHEST PRIZE MEDAL AWARDED AT PARIS IN 1867.



Greatly improved in strength, style and effectiveness; a rib being added to the side.

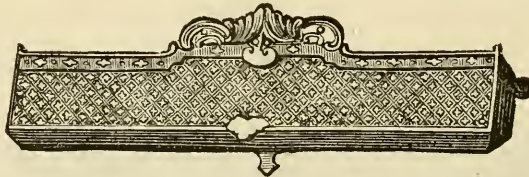
IN BOXES OF ONE DOZEN EACH.

No. 00, opens 2 inches, per doz.,	\$2 00
" 0, " 2½ " " "	3 00
" 1, " 3 " " "	4 00
" 2, " 4 " " "	6 00

IN PACKAGES OF HALF DOZEN EACH.

No. 3, opens 5½ inches, per doz.,	\$7 50
" 4, " 7 " " "	9 00
" 5, " 8 " " "	11 00
" 6, " 10 " " "	13 00

## PEW BOOK RACKS.



No. 1, bronzed, for church pews,	- - - - -	75 cents each.
" 2, " " " " " "	- - - - -	50 " "

## SASH ROLLERS.

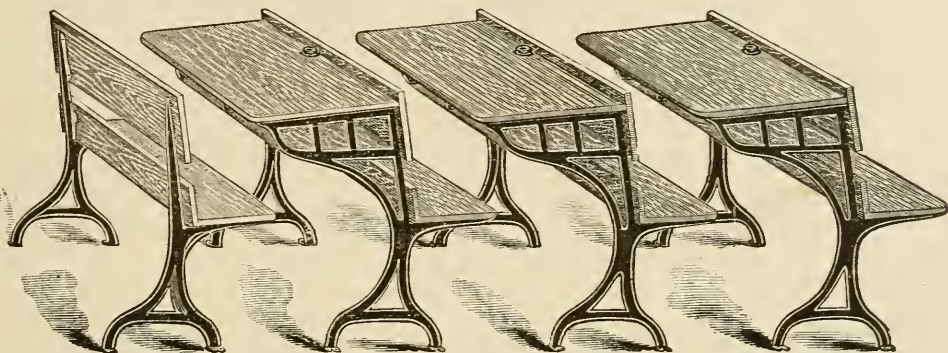
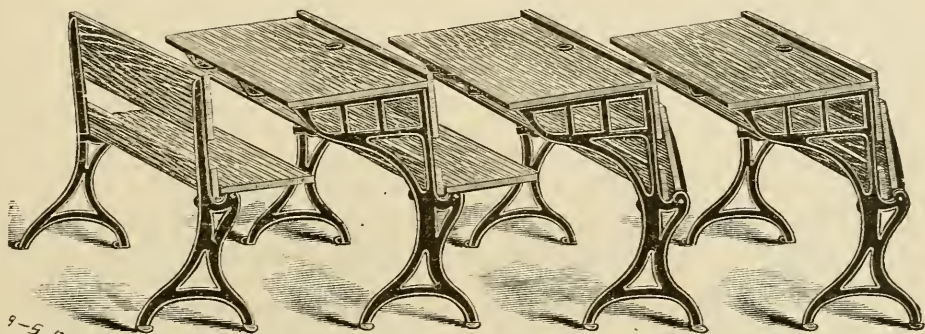


No. 1, plate 2 by 1 inch, wheel ¾ inch diameter, ¾ inch thick, per gross,	\$3 00
" 3, " 1¾ by ¾ " " ⅝ " " ½ " " " "	2 25

## SCHOOL DESK FRAMES.

## CINCINNATI PATTERN.

All the castings are smooth and handsome, countersunk ready for the screws, and japanned with our best Hardware Baking Varnish.

**STYLE A.—Stationary Seat.****STYLE AA.—Folding Seat.**

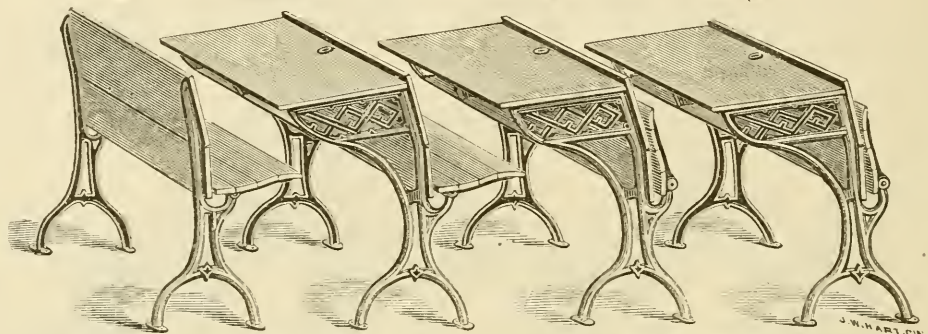
Revised List.	New Numbers,	1	2	3	4	5	6
Highth of Desk, . . . . . inches,		30	28	25½	24	22½	21
Highth of Seat, . . . . . "		16½	15½	14	13	12	11
Width of Desk, . . . . . "		16	15	14	13	12½	12
Width of Seat, . . . . . "		14	13	12	11½	10	9½
For pupils, aged, . . . . . years,		16 to 20	16 to 20	12 to 16	8 to 12	7 to 9	6 to 8
Style A, Desk Castings, . . . . . per pair,		\$1 84	\$1 60	\$1 44	\$1 36	\$1 28	\$1 20
Style A, Back Seat Castings, . . . . . "		1 04	90	80	75	70	72
Style AA, Desk Castings, . . . . . "		2 09	1 85	1 69	1 61	1 53	1 45
Style AA, Back Seat Castings, . . . . . "		1 29	1 21	1 13	1 05	1 05	97

Each combined Desk and Seat requires the following Wood Screws, which we do not furnish: three ½ inch, No. 5; five 1½ inch, No. 10; four 1½ inch, No. 10; eighteen ⅝ inch, No. 11, and ten 1 inch, No. 11; and each Back Seat four 1½ inch, No. 10; twelve 1½ inch, No. 11, and eight 1 inch, No. 11.

The Folding Seats require rubber stops to prevent noise in dropping, which we furnish without extra charge.

# SCHOOL DESK FRAMES.

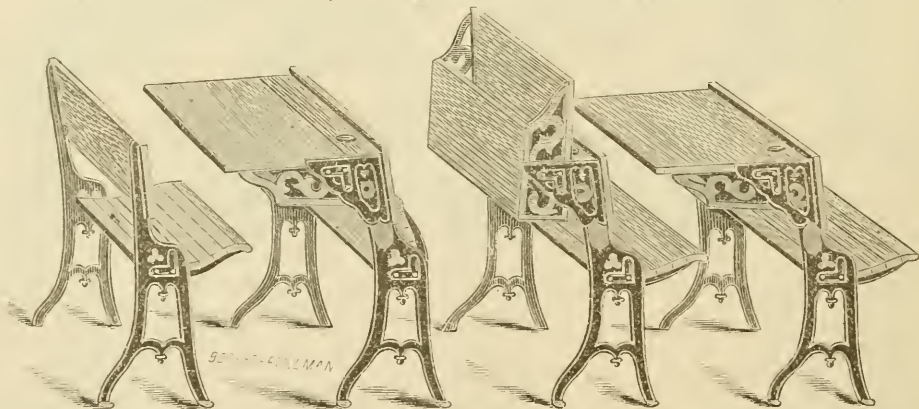
**STANDARD STYLE B.**—James L. Haven & Co.'s Patent.



Revised List.	New Numbers,	1	2	3	4	5	6
Highth of Desk, finished, . . . inches,		30	28	25½	24	22½	21
Highth of Seat, finished, . . . " . . .		17	15½	14	13	12½	11½
Width of Desk, . . . . . " . . . . .		16	15	14	13	12½	12
Width of Seat, . . . . . " . . . . .		13	12½	12	11½	11	10½
For pupils, aged, . . . . . years,		18 to 20	16 to 20	12 to 16	8 to 12	7 to 9	6 to 8
Desk Castings, . . . . . per pair, finished,		\$2 50	\$2 34	\$2 18	\$2 10	\$1 95	\$1 85
Back Seat Castings, . . . . . " . . . . .		2 00	1 86	1 62	1 54	1 50	1 42

Require a few more of the smaller sizes of Screws than style AA, on account of the Slat Seats. The patterns are quite new, and make a strong, handsome, noiseless and durable Desk.

**FOLDING DESK, STYLE C.**—James L. Haven & Co.'s Patent.



Revised List.	Numbers,	11	12	13
Highth of Desk, when finished, . . . . . inches,		23½	25½	29
Highth of Seat, . . . . . " . . . . .		12½	13½	15½
Width of Desk, . . . . . " . . . . .		14½	15½	16½
Width of Seat, . . . . . " . . . . .		12	12½	13
For pupils, aged, . . . . . years,		12 to 16	16 to 20	16 to 20
Desk Castings, . . . . . per pair, finished,		\$1 80	\$2 00	\$2 24
Back Seat Castings, . . . . . " . . . . .		1 12	1 28	1 52

Screws required, about the same as for style B. No Rubbers are used.

This style of Desk is very desirable when the school-room is needed for other meetings.

## VARNISHES.

The country has been flooded with every variety of spurious Varnishes and Japans, and the custom of adulterating with Benzine and Resin, has caused Cabinet-makers and others no end of trouble, besides greatly injuring that trade, on account of the want of durability.

Having experienced the same annoyance, and coming to the conclusion that we could not AFFORD to make money by economizing a dollar or two a day, in the appearance and quality of our work, we are having manufactured to order every variety of superior Varnishes and Japans, which we know and will warrant to be **strictly pure**, positively free from any adulteration whatever, and we take pleasure in being able to offer our customers something reliable, and at prices which will justify them in giving us their orders.

These Varnishes took the Medal at our Industrial Exposition in October, 1872, both for DISPLAY and QUALITY.

### PRICE LIST.

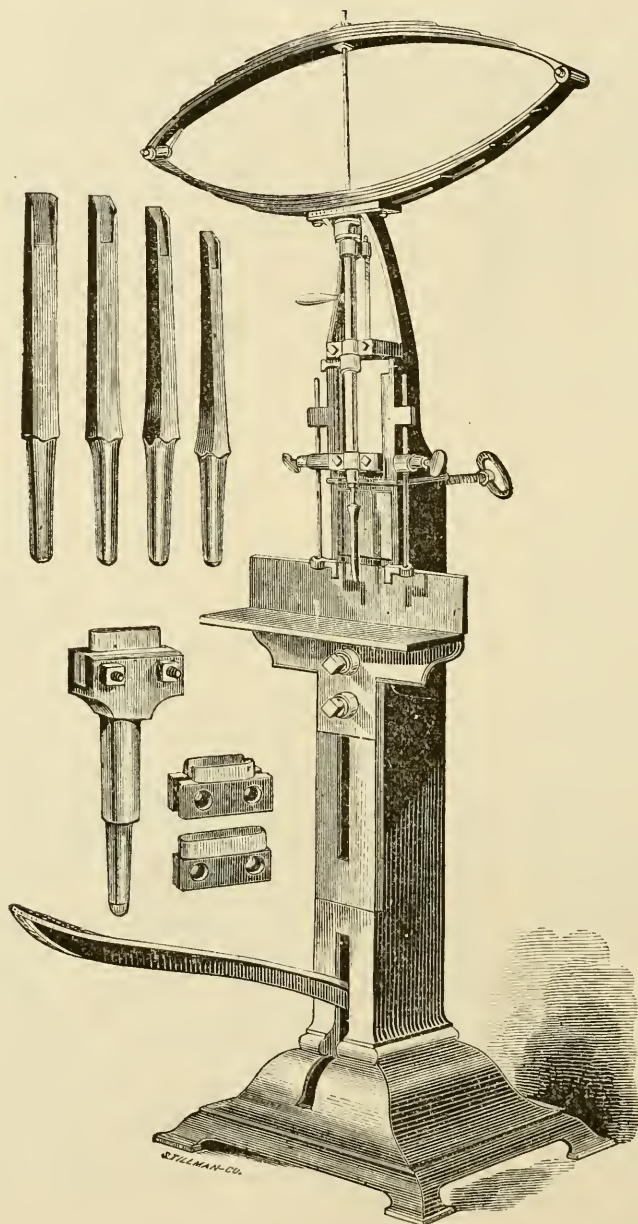
	Per Gallon		Per Gallon.
Outside Car, Finishing.	\$4 50	No. 1 Pure Copal, Turpentine,	
Outside Car, Rubbing.	4 00	Rubbing.	\$1 40
Engine and Tank, Finishing.	4 25	No. 1 Pure Copal, Turpentine,	
Inside Car, Finishing.	3 25	Flowing.	2 00
Vitreous Varnish, for Mantels.	4 75	Extra Pure Copal, Turpentine.	
Flowing, Extra Piano.	3 25	Flowing.	2 50
Coach Body, Best.	4 50	Walnut Stain.	1 00
Coach Body, Rubbing.	4 00	Shellac (Alcohol).	3 75
Coach Body, Rubbing.	3 75	White Demar, for Zinc Paint.	2 00
Carriage or Gearing, Finish.	3 75	White Demar, for Zinc Paint.	1 75
No. 1 Coach or Wagon Varnish.	2 00	Implement, Coach.	1 60
Buggy Top Enamel Varnish.	3 50	Black Baking Japan.	1 30
No. 1 Pure Copal, Turpentine,		Blue Baking Japan, Extra.	1 75
Furniture.	1 25	Black Asphaltum, Air Drying.	1 00
No. 1 Pure Copal, Benzine, Fur-		Coach Japan.	1 50
niture.	1 00	Japan Dryer.	1 00
No. 1 Pure Copal, Turpentine,		Oil Finish.	2 50
Rubbing.	1 60		

Above are all warranted precisely as represented, and are sold as cheaply as can be afforded to make a reasonable profit.

If anybody wants cheaper goods, we advise them to purchase Resin Varnish, and mix for themselves, and then we will warrant the mixture not to give satisfaction to the purchaser of furniture—it will turn white when exposed to the weather or wet. We sell Resin Varnish at 65 cents per gallon, (Turpentine), and when mixed in certain proportions with pure Copal, you can make your own calculation as to cost.

For Implements which are exposed to the weather, we recommend to mix with pure Turpentine Copal about one-third of Boiled Oil, as it is prepared by Varnish-makers, not what is usually sold as Boiled Oil. (Ours is boiled at a temperature of 420 degrees, with 50 lbs. Driers to each 100 gallons of Oil.) This makes a very durable Varnish Mixture, equal to good Coach Varnish.

# STEPTOE'S MORTISING MACHINE.

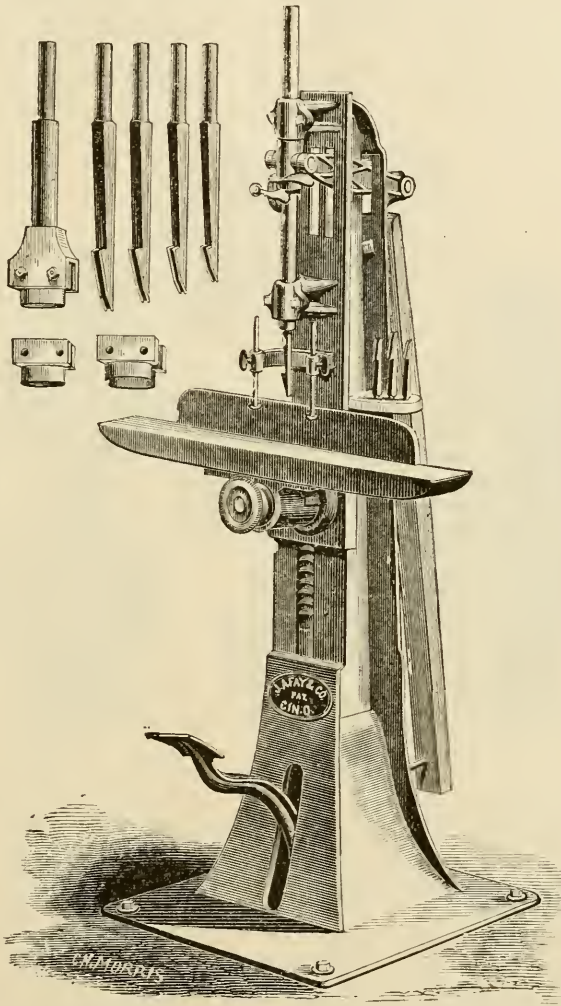


Boxed, complete (no charge for boxing), with four Chisels—5-16,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$  inch—and one stock for Blind Chisels, and 3 pairs of Bitts, - \$48 00

## EXTRA CHISELS, IF WANTED.

$\frac{1}{4}$  to  $\frac{1}{2}$  inch, \$1 50 each.  $\frac{5}{8}$  to  $\frac{3}{4}$  inch, \$1 75 each.  $\frac{7}{8}$  to 1 inch, \$2 00 each.  
 BLIND CHISELS, for hand or machine, 3 pairs of Bitts— $\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$  inch, \$5 00  
 BLIND BITTS, fitted to old stock, per pair, - - - - - 1 25

# "PRIZE" FOOT MORTISING MACHINE.



Boxed, complete, (no charge for boxing,) with four Chisels—5-16,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$  inch—and one

Stock for Blind Chisels, and three pairs of Bits, - - - - - \$48 00

## EXTRA CHISELS, IF WANTED.

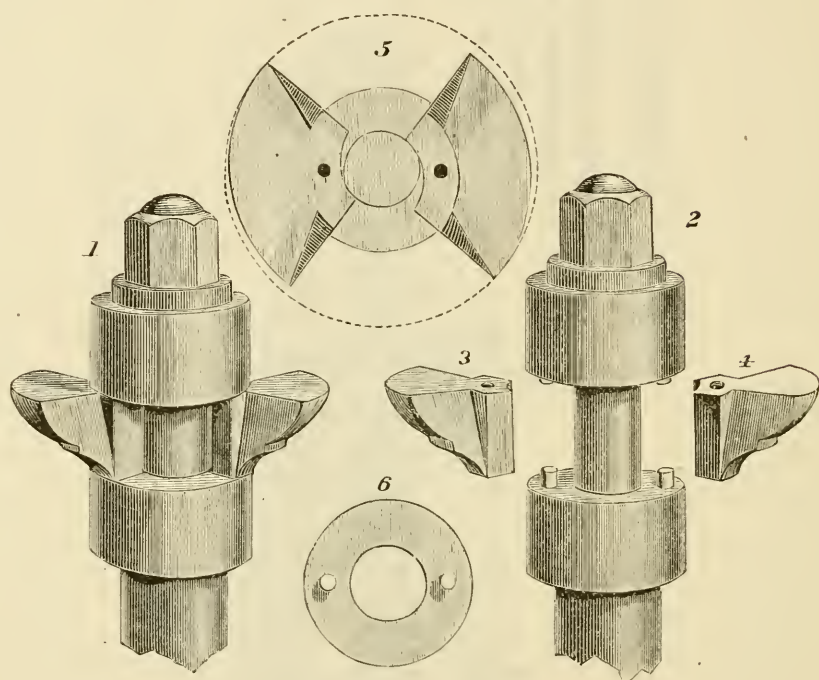
$\frac{1}{4}$  to  $\frac{1}{2}$  inch, - - \$1 50 each. |  $\frac{5}{8}$  to  $\frac{3}{4}$  inch, - - \$1 75 each. |  $\frac{7}{8}$  to 1 inch, - - \$2 00 each.

BLIND CHISELS, for hand or Machine, three pairs of Bits—1 $\frac{1}{2}$ , 1 $\frac{3}{4}$ , 1 $\frac{1}{2}$  inch, - - - \$5 00

" BITS, fitted to old Stock, - - - - - per pair, 1 25

This new Machine has several advantages over all others with which we are acquainted. The upper end of the Chisel Mandrel is always in position, obtaining the full length of stroke, whilst in others the construction of the Mandrel is such that at a certain position, when it has to reverse, 1 $\frac{1}{2}$  inches of the stroke is lost. Moreover, the Treadle is so made that the force of the stroke is increased as the foot goes down—giving the greatest power whilst the Chisel is in the wood, and making it much easier on the workman.

# MOLDING CUTTER-HEADS.



This is the most perfect Bit ever produced for the manufacture of moldings of any designs required by furniture, picture-frame and wood-working manufacturers, as each Bit can be used as a Solid Bit, or to cut either right or left.

It will do much more work, do it far better, with less skill on the part of the operator, and costs less than the Solid Bit. As the shape of the Bit is not changed by sharpening, the molding can at any time be re-produced. We are now prepared to furnish any style that may be ordered.

We also make to order the Solid Bit when required.

Parties ordering must say whether they want the "SOLID OR PATENT BIT," and if possible send us a piece of the wood molding the desired shape required, or a tracing on paper, when we can make the Bit to re-produce it.

In all cases give us the diameter of the spindle, and also of the collars you are now using.

Bits made to order and sent C. O. D. to any part of the country, and satisfaction guaranteed.

## TERMS OF WARRANTY ON SAWS.

*See* Subject to Change.

Each Saw is Warranted free from flaws and seams and practically true. If found defective in either of these particulars, it may be returned at the shipper's expense; and if, on examination by us, we are satisfied the Saw is at fault, it will be properly repaired, or new Saw given in exchange, and returned. A Saw will not be exchanged for a new one after it has been gummed.

## CIRCULAR SAWS.

## Warranted Extra Cast Steel.

Diam. Inch.	Thick. Gauge.	Size of Hole.	Price each.	Each Thicker.	Each Gauge Tapered.
4	19	$\frac{3}{4}$ inch,	85	6 extra,	-
5	19	$\frac{3}{4}$ "	1 00	7 "	-
6	18	$\frac{3}{4}$ "	1 25	9 "	-
7	18	$\frac{3}{4}$ "	1 50	10 "	-
8	18	$\frac{7}{8}$ "	1 75	11 "	-
9	17	$\frac{7}{8}$ "	2 25	14 "	-
10	16	1 "	2 75	16 "	-
12	15	1 "	3 50	20 "	50
14	14	$1\frac{1}{8}$ "	4 00	24 "	60
16	14	$1\frac{1}{8}$ "	4 75	28 "	70
18	13	$1\frac{1}{8}$ "	5 50	34 "	80
20	13	15-16 in.	7 00	40 "	90
22	12	15-16 in.	8 00	48 "	1 00
24	11	$1\frac{3}{8}$ inch,	10 00	55 "	1 20
26	11	$1\frac{3}{8}$ "	12 00	65 "	1 40
28	10	$1\frac{1}{2}$ "	14 00	80 "	1 60
30	10	$1\frac{1}{2}$ "	16 00	90 "	1 80
32	10	$1\frac{5}{8}$ "	18 50	1 00 "	2 00
34	9	$1\frac{5}{8}$ "	21 00	1 20 "	2 20
36	9	$1\frac{5}{8}$ "	24 00	1 40 "	2 40
38	8	$1\frac{5}{8}$ "	28 00	1 75 "	2 60
40	8	2 "	33 00	2 00 "	3 00
42	8	2 "	40 00	2 50 "	3 50
44	7	2 "	48 00	3 00 "	3 70
46	6	2 "	56 00	3 50 "	3 80
48	6	2 "	65 00	4 25 "	4 00
50	6	2 "	75 00	5 00 "	4 20
52	5	2 "	90 00	5 75 "	4 30
54	5	2 "	105 00	7 00 "	4 50
56	5	2 "	125 00	8 75 "	4 70
58	5	2 "	150 00	10 00 "	4 80
60	5	2 "	175 00	12 00 "	5 00
62	4	2 "	200 00	14 00 "	5 20
64	4	2 "	230 00	16 00 "	5 40
66	4	2 "	265 00	18 00 "	5 50
68	4	2 "	300 00	20 00 "	5 70
70	3	2 "	340 00	22 00 "	5 90
72	3	2 "	380 00	24 00 "	6 00

Made to cut Metal or Ivory, double price.

" Concave, 50 per cent. advance on List.

## Warranted Extra Cast Steel Top Saws.

## FOR DOUBLE MILLS.

24	26	28	30	32	34	36 inch.
\$13	15	18	21	24	27	31 each.

When ordering Saws, the following directions should be explicitly given:

Diameter of Saw, in inches.

Thickness or gauge of Saw at rim.

Thickness or gauge of Saw at centre.

Right or left hand Saw.

Number of teeth in Saw.

Size of Mandrel hole.

Size of Pin holes.

Distance between centres of Pin holes.

Feed at each revolution of Saw, in inches.

Kind of lumber to be sawed.

Number of revolutions of Saw per minute.

## CIRCULAR SAW MANDRELS.

For 8	10	12	14	16	18 inch Saws.
\$8	9	10	11	12	14 each.

For 20	22	24	26	28	30 inch Saws.
\$15	17	18	19	20	21 each

No. 1 Warranted Cast Steel  
Mill Saws.

5	6	7	8	9 Gauge.
\$1 60	1 50	1 40	1 30	1 20 per foot.

## No. 2 Cast Steel Mill Saws.

10 cts. per foot less than No. 1.

No. 1 Warranted Cast Steel Mulay  
Mill Saws.

	4	5	6	7 Gauge.
10 in. wide,	\$2 50	2 30	2 10	1 90 per ft.
11 "	2 70	2 50	2 30	2 10 "
16 "	2 85	2 70	2 50	2 30 "

## No. 2 Cast Steel Mulay Mill Saws.

15 cts. per foot less than No. 1.

**CAST STEEL PRUNING SAWS.**

14	16	18	20	22	24 in.
\$9 00	10 00	11 00	12 50	14 50	15 50 doz.

**POLE PRUNING SAW & CHISEL.**

Per dozen,	-	-	-	-	\$10 00
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**BUTCHERS' BOW SAWS.**

Per dozen.	Spring Backs.	Flat Backs.	Oval Backs.
12 inch, -	- \$9 50	-	-
13 " -	- 10 00	\$13 00	-
14 " -	- 10 50	14 00	-
15 " -	- 11 00	-	-
16 " -	- 12 00	15 00	-
18 " -	- 13 00	16 00	\$16 50
20 " -	- 14 00	17 00	18 00
22 " -	- -	18 00	20 00
24 " -	- -	19 00	22 00

**BUTCHERS' BOW SAW BLADES**

12	14	16	18	20	22	24 in.
\$3 25	3 50	4 00	4 50	5 00	5 50	6 00 doz.

**CAST STEEL KITCHEN SAWS.**

12 inch, -	-	-	-	-	per dozen, \$5 75
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**CAST STEEL SAW KNIVES.**

Per dozen, -	-	-	-	-	\$5 00
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**CAST STEEL COMPASS SAWS.**

8	10	12	14	16	18 in.
\$4 00	4 25	4 50	4 75	5 00	5 25 doz.

**COMPASS SAWS, Mitchell's Patent.**

Pad Handles, with one Blade, -	per doz., \$6 00
Extra Blades, to fit ditto, -	" 1 50
Pistol Handles, with one Blade, -	" 7 50
Extra Blades, to fit ditto, -	" 2 00

**CAST STEEL HACK SAW  
BLADES.**

8	9	10	11	12	13	14 in.
\$3 25	3 50	3 75	4 00	4 50	5 00	5 50 doz.

Cast Steel Key-Hole or Fret Saws, pr. dz., \$1 50

" Compass Saw Blades, " 2 00

Cabinet Scrapers, - - - - " 1 25

Wall " 6 in. long, 5 in. wide, " 2 50

Currier Blades, black, - - - - " 1 50

" " polished, - - - - " 2 00

Mitre " beveled edge, pr. ft., 75


Hand Saw Handles, No. 7, - pr. dz., 2 25

**CROSS CUT SAWS.****WARRANTED EXTRA CAST STEEL.  
No. 1, Extra Tempered.**

Common Teeth, -	-	-	per foot, 70 cts.
Single Hook, -	-	-	" 75
Double " -	-	-	" 80
Telegraph Tooth, -	-	-	" 80
Electric " -	-	-	" 80
Champion " -	-	-	" 80
Garver Pattern, -	-	-	" 80
Feather Edge, -	-	-	" 80

**CAST STEEL, No. 2.**

Common Teeth, -	-	-	per foot, 54 cts.
Single Hook, -	-	-	" 57

 No Cross Cut Tangs, or Ears, furnished, unless ordered.

**CROSS CUT HANDLES,**

Woodrough &amp; McParlin's Pat., pr. pr., 75 cts.

Cross Cut Handles, Common, per dozen, 50

 Any shaped Tooth made to order.

**POWER SAWS.****WARRANTED CAST STEEL.**

To three-quarters of an inch wide. Over  $\frac{3}{4}$  inch, extra price; made from 13 to 16 gauge in thickness.

12	13	14	16	18	20	22 inch.
\$3 00	3 25	3 50	3 75	4 00	4 25	4 50 per doz.
26	28	30	32	34	36	38 inch.
\$5 00	5 50	6 00	6 50	7 00	7 50	8 00 per doz.

**TURNING WEBS.****WARRANTED CAST STEEL.**

Made from 19 to 22 gauge in thickness.

14	16	18	20	22	24 inch.
\$1 75	2 00	2 25	2 50	2 75	3 00 per doz.
26	28	30	32	34	36 inch.
\$3 25	3 50	3 75	4 00	4 25	4 50 per doz.

**FELLOE WEBS.****WARRANTED CAST STEEL.**

Made from 17 to 19 gauge in thickness.

24	26	28	30	inch.
\$4 00	4 25	4 50	4 75	per dozen.
32	34	36	38	inch.
\$5 25	5 75	6 25	6 75	per dozen.

# BELTING AND HOSE.

A Full Roll of Belting Measures from 250 to 350 Feet.

## RUBBER BELTING.

Width. Inches.	2-PLY. Per Foot.	3-PLY. Per Foot.	4-PLY. Per Foot.
1	7 cts.	8½ cts.	
1½	8½	9	
1½	10	13	
2	14	17	21
2½	17	21	
3	20	26	31
3½	24	30	
4	28	34	42
4½		39	
5		43	52
5½		48	
6		52	62
7		60	73
8		70	84
9		80	95
10		90	107
11		100	118
12		108	130
13		118	142
14		128	154
15		138	166
16		150	178
18		170	202
20		190	226
22		212	252
24		236	280

Intermediate widths at proportionate Prices.

5 and 6-Ply Belts to order, at an advance of 25 & 50 per ct. on 4-Ply prices.

Endless Belts made to order, with additional charge of 3 feet for splicing.

Lace Leather, Hose Couplings and Nozzles, Belt Rivets and Burs, Rivet Sets and Punches, Hammers, Hemp Packing Yarn, &c., &c.

## LEATHER BELTING.

Width.	Per Foot.	Width.	Per Foot.
1 in.	6 cts.	11 in.	126 cts.
1½	12	12	138
2	18	13	150
2½	24	14	162
3	30	15	178
3½	36	16	194
4	42	18	226
4½	48	19	242
5	54	20	258
5½	60	22	290
6	66	23	306
7	78	24	322
8	90	26	356
9	102	28	390
10	114	30	422

Double Belts, Double Price. Intermediate widths at proportionate Prices.

## ROUND BELTING.

3-16 in., per ft. 9 cts.	5 in., per ft. 25 cts.
¼ in., " 12	¾ in., " 30
⅜ in., " 17	1 in., " 36
½ in., " 20	1 in., " 40

## POINTED BELT HOOKS.

PER THOUSAND.

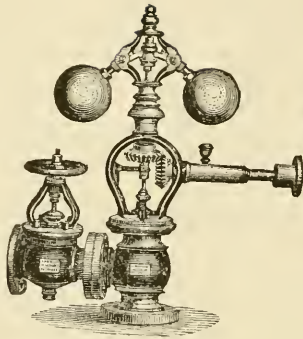
No. 13.	\$2 25	No. 8,	\$4 00
" 12,	2 50	" 7,	5 00
" 11,	2 75	" 6,	7 00
" 10,	3 00	" 5,	8 50
" 9,	3 50	" 4,	10 00

## Blake's Patent Belt Studs.

PER HUNDRED.

No. 0,	\$2 50	No. 3,	\$1 00
" 1,	2 00	" 4,	90
" 2,	1 50	" 5,	75

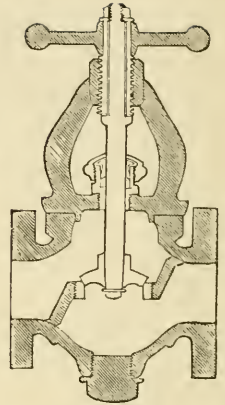
 We fill orders for any kind of Goods.



No. 1.

## JUDSON'S Standard Governor,

GREATLY IMPROVED,  
WITH CHILLED IRON SEATS  
AND PISTON.



The greatly increased demand for the Judson Governor enables the manufacturers to again reduce the price, and also to furnish a much better Governor than heretofore, by virtue of recent important patented improvements, including hardened Valveseats and Valve—preventing steam cut, which is the great enemy of governor valves, and makes all other governors short-lived, unreliable, and a constant source of perplexity and loss to all parties using them; or steam metal Seats and Valve can be inserted if used in localities where hard seats are destroyed by acid or salt in the water. The patent Revolving Spool or Joint that connects the Governor to the Valve is also hardened, surface large, and so formed as to be nearly frictionless and proof against wear. The brass valve rod is Nickel Plated to prevent friction and leakage in the stuffing box. The flanges are thick and strong to prevent springing when bolted down. All the shafts and bearings are made large to afford wearing surface sufficient to be lasting under constant use. The whole is simple and compact and combines all that a perfect regulator of speed should, including durability not only for one year but for many.

Stop Motions attached to Governors are deceptive frauds, for the reason that they stop the engine when the resistance or load is thrown on at the very time the governor should make it go ahead. To overcome this defect in stop motions, we have a simple device that neither stops the engine when the governor belt breaks nor increases the speed, but the engine runs regular as before. This improvement does not interfere with the legitimate working of the governor, and is not a fraud upon the engineer or proprietor. It is simply a second belt on the governor.

The Stop Valve is the result of many trials for years past to get the most durable and convenient to repair.

The Valve is attached to its stem, neither of which revolve when the valve closes, affording the most convenient construction for regrinding when rasped out by the steam, to which the throttling process necessarily subjects them.

All parties who are annoyed with defective Stop Valves will do well to use these.

### THE VARIOUS STYLES ARE NUMBERED AS FOLLOWS:

- No. 1—Like cut—Base flanged to set on a vertical pipe, and side opening flanged.
- No. 2—Base flanged, side tapped for gas pipe.
- No. 3—Both base and side tapped for gas pipe.
- No. 4—Flanged openings on both sides to attach to horizontal pipes.
- No. 5—Tapped openings on both sides for horizontal pipes.
- No. 6—Portable Engine Governor; bottom flanged, side opening tapped.
- No. 7—Portable Engine Governor; side openings for horizontal pipe both tapped.
- No. 10—Is a Register Valve, made in the strongest and most substantial manner, balanced so that it works perfectly easy. It is used extensively as a Sawyer's Valve, to stop and start the Engine by a cord running to the sawyer. Never troubles by leaking.

# JUDSON'S PATENT IMPROVED GOVERNORS AND GLOBE STOP VALVES.

Nos. 1, 2, 3, 4 and 5.

REDUCED PRICE LIST, February 10th, 1875.

Capacity of Valve or Diameter of Steam Pipe.	Price, Black.	Price, Bright Finish.	Price of Lever Attachment for altering speed.	Price of Stop Valve.	Size of Valve to Diameter of Engine Cylinder at ordinary speed of Piston, (300 feet per minute.) For greater speed use larger Governors.	Speed of Governor, Number of Revolutions per minute.	Diameter and Face of Pulley that should be put on each Governor to drive it properly.
1 inch,	\$18 00	\$20 00	- -	- -	1 to 2 1/2 in.	320	3 x 1 in.
1 1/4 "	20 00	22 00	- -	- -	2 1/4 to 3 1/2 "	320	3 1/2 x 1 1/4 "
1 1/2 "	24 00	27 00	12 00	\$5 25	4 to 5 "	160	3 1/2 x 1 1/4 "
1 3/4 "	29 00	32 00	2 25	6 60	5 to 6 "	130	4 x 1 1/2 "
2 "	34 00	38 00	2 50	8 50	6 to 7 "	120	4 x 1 1/2 "
2 1/4 "	41 00	46 00	2 75	11 50	7 to 8 "	120	4 1/4 x 1 3/4 "
2 1/2 "	47 00	54 00	3 25	16 00	8 to 9 "	110	5 x 2 "
2 3/4 "	50 00	57 00	3 50	17 00	9 to 10 "	105	5 1/2 x 2 "
3 "	55 00	62 00	3 75	19 00	10 to 11 "	105	6 x 2 "
3 1/4 "	62 00	70 00	4 25	22 00	11 to 12 "	98	7 x 2 "
3 1/2 "	71 00	80 00	4 50	27 00	12 to 14 "	98	8 x 2 "
4 "	81 00	92 00	5 00	32 00	14 to 16 "	95	9 x 2 1/2 "
4 1/2 "	91 00	103 00	5 50	37 00	16 to 18 "	92	10 x 2 1/2 "
5 "	102 00	114 00	6 00	42 00	18 to 20 "	92	11 x 3 "
5 1/2 "	116 00	129 00	6 50	48 00	20 to 23 "	85	12 x 3 "
6 "	134 00	148 00	7 00	55 00	23 to 26 "	77	14 x 3 1/2 "
7 "	160 00	176 00	8 00	69 00	26 to 28 "	77	14 x 3 1/2 "
8 "	199 00	219 00	9 00	83 00	28 to 30 "	70	16 x 4 "
9 "	230 00	255 00	10 00	- -	30 to 32 "	70	18 x 4 1/2 "

## PORTABLE ENGINE GOVERNORS. Nos. 6 and 7.

Capacity of Valve, inch.	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Price of Governor,	- \$17 00	19 00	22 00	27 00	31 00	38 00	47 00
Lever Attachment,	-	1 75	2 00	2 25	2 50	2 75	3 25

These are not suitable for nor will they be sold to attach to Stationary Engines. They are strong, well proportioned, and perfectly fitted up, every Governor being critically examined before leaving the factory, and are warranted to control Engines perfectly. They are better finished than the Black Governors of other makers, and the prices are less than any engine builder can manufacture a good article for.

When Governors are ordered, be particular and say, Governor with Stop Valve, or without Stop Valve; and either Black Finished or Portable, as you may require, and with or without Lever Attachment. Exact speed of each Governor is marked on the top head.

The Pulley on the Governor should be made as large, or larger, than indicated in right-hand column, and should have a Flange on each edge of 5/8 or 3/4 of an inch high, which is the most effective device to prevent the Belt from slipping off the Pulley and the Engine from running away. Do not try to drive these Governors with a Cord or Round Belt. No Governor warranted where the Pulley put on it is of less diameter than marked in the last column of price list.

## IMPROVED REGISTER VALVE FOR SAWYERS.

Size, inch,	1 1/2	2	2 1/2	3	3 1/2	4	5
Price, - -	\$11 00	15 00	20 00	25 00	30 00	36 00	48 00

## STURTEVANT'S PATENT EXHAUST FAN.

This Fan is used for removing *shavings* from planing and molding machines; *sawdust* and *dust* from sand wheels, such as are used for polishing lasts, carriage spokes, shoe bottoms, felt hats, etc.; also, *dust* from emery wheels, used for polishing all kinds of hardware; *smoke* and *gas* from smoky smith-shops and manufacturing establishments and chemical works; *steam* and *vapor* arising from paper machines, and all drying cylinders and dry-rooms; also, *sweat* from mill-stones, *offensive odors* from try-kettles and dyeing establishments; *dust* from rag and cotton pickers, flax and rope machinery; *ventilation* of coal mines and all underground apartments or cellars.

No one can conceive the comfort an Exhaust Fan gives all the operatives in a shop until he has seen it tried—to say nothing of the economy of making the engine deliver all the shavings and sawdust right at the place where wanted, or even under the boiler if desired, dispensing with one hand, usually, and keeping the shop clean all the time.

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## STEAM HEATING PIPE FOR ESCAPE STEAM.

We have patterns for all desirable sizes of pipes for the above purpose, and can refer to numbers of shops which we have fitted out.

For Heating Shops there is of course no plan as safe; and the only objection made is that the back pressure on the engine loses (in power) all that is gained by saving the coal burned in stoves.

We can convince you in a few minutes, by applying an indicator to our or your engine, that such fears are groundless. The back pressure is nothing; and all the fuel burned under the boiler is available for heating purposes after doing its work in the engine.

The saving in fuel is, however, only one item. Add to that the time spent in taking care of fires; the time wasted standing around the stoves; the increased risk of burning your shop; and you approximate the real saving. No shop can afford to do without it.

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## DRY HOUSES.

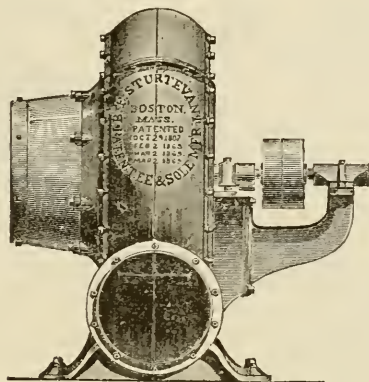
We can show in operation dry houses for seasoning lumber, heated entirely with escape steam, which do the work much more satisfactorily than any "patent" dry kiln, and at no expense whatever for fuel or attendance.

With the addition of a "Sturtevant Dryer" we guarantee still better results.

We use one of them for warming and ventilating our warehouse—conveying a large volume of warm air into the cellar, which diffuses itself through the whole house.

For Sturtevant Blowers and Suction Fans, send for a special catalogue.

B. F. STURTEVANT'S  
PATENT EXHAUST FAN.



PRICE LIST.

No. OF FAN.	SIZE OF PULLEY.		Diameter of Pulley for Driving Blower.	Diameter of Shaft.	Price without Countershaft or Pulleys.	Price with Countershaft and Pulleys.
	Diameter	Face.				
00	3	2 3-8	21	1 1-4	\$25 00	\$40 00
0	3 3-4	2 3-4	21	1 1-4	35 00	50 00
1	4 3-16	3 1-4	21	1 1-4	45 00	60 00
2	4 7-8	3 9-16	24	1 3-8	65 00	83 00
3	5 3-4	4 7-16	28	1 1-2	90 00	112 00
4	6 3-4	5 3-16	32	1 3-4	130 00	160 00
5	7 3-4	6	36	1 15-16	180 00	222 00
6	9	6 7-8	42	2 3-16	240 00	295 00
7	10 3-8	8	48	2 2-16	310 00	380 00

BLAST GATES.

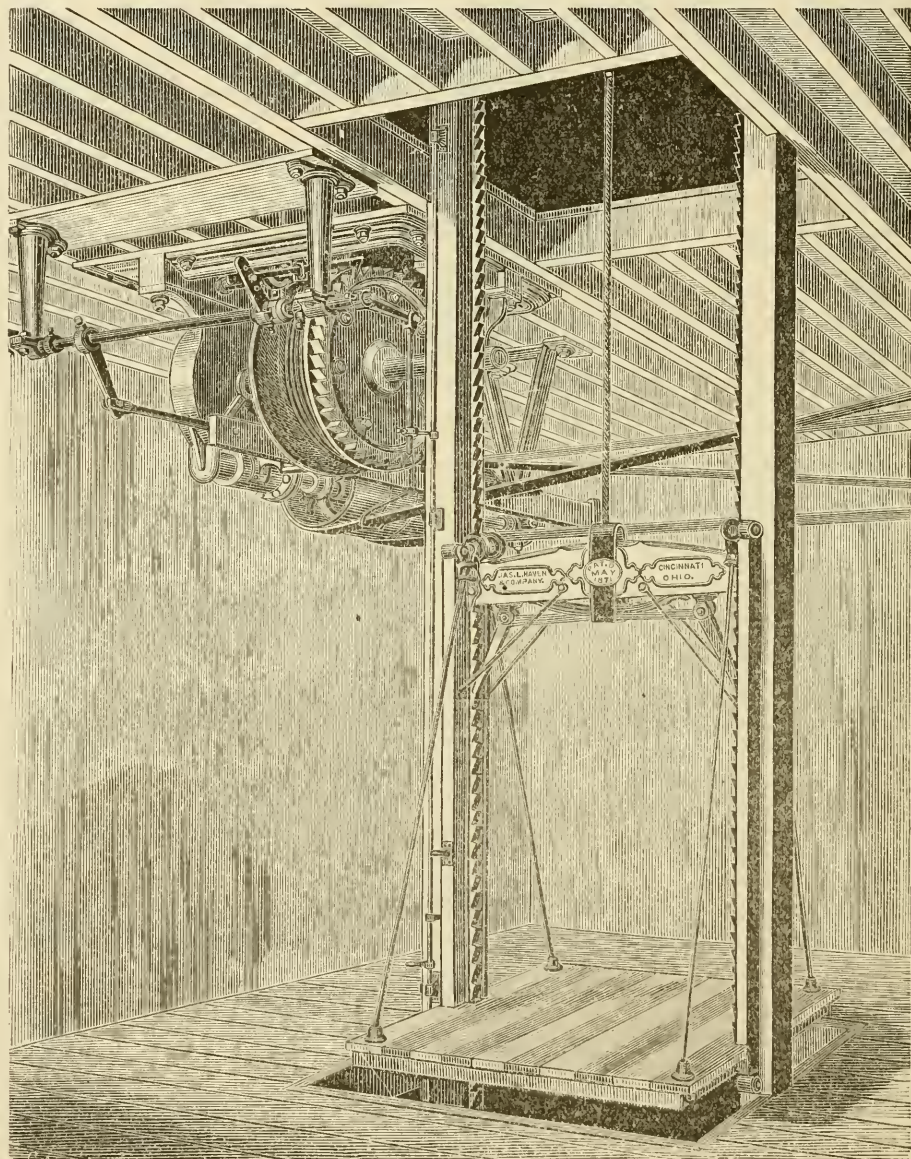
For Opening and Closing Branch Pipes, so as to shut off Machinery not in use.

PRICE LIST.

1½ inch (composition),	-	\$1 50	10 inch (iron),	-	-	-	\$7 50
2 " "	-	1 75	12 " "	-	-	-	10 00
2½ " "	-	2 00	14 " "	-	-	-	12 00
3 " "	-	2 50	15 " "	-	-	-	15 00
4 " "	-	3 00	16 " "	-	-	-	17 00
5 " (iron),	-	3 00	18 " "	-	-	-	20 00
6 " "	-	4 00	20 " "	-	-	-	23 00
8 " "	-	5 50	24 " "	-	-	-	30 00

These measurements apply to the sizes of the sheet metal pipes, which fit on to the outside of the collars of the blast gate.

JAMES L. HAVEN & COMPANY'S  
POWER ELEVATORS.

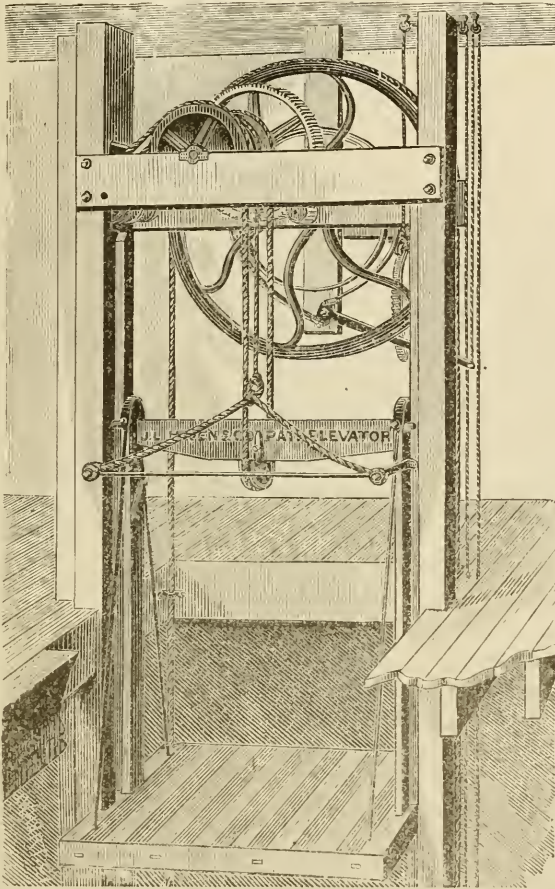


A Special Engine will not cost over Fifty Cents per day for Fuel.

Send us description of what you need, and let us give you an estimate for either

STEAM POWER OR HYDRAULIC ELEVATOR.

## HAND POWER ELEVATORS.

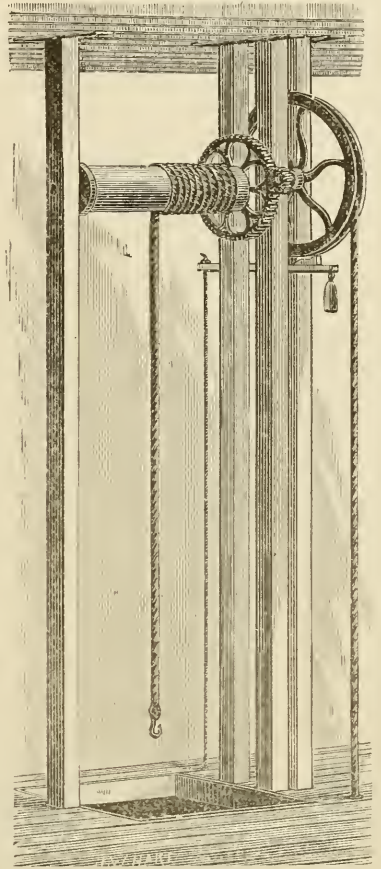


No. 4

## No. 4. PLATFORM ELEVATOR.

This machine comprises all that is desirable in a Hand Elevator. Anti-Friction Bearings, requiring no oiling; Safety Attachment, preventing the platform from falling if the lines should break; Counter-balanced Platform, to run up of itself; Patent Check, that will hold it at any point, loaded or light, but which can be started from the platform or from either floor; Hand Rope in the hatch-way, so that the operator can raise himself and the load.

It is shown with hemp hoisting rope, but we make them also with wire rope when so ordered. Capacity up to 3,500 pounds.

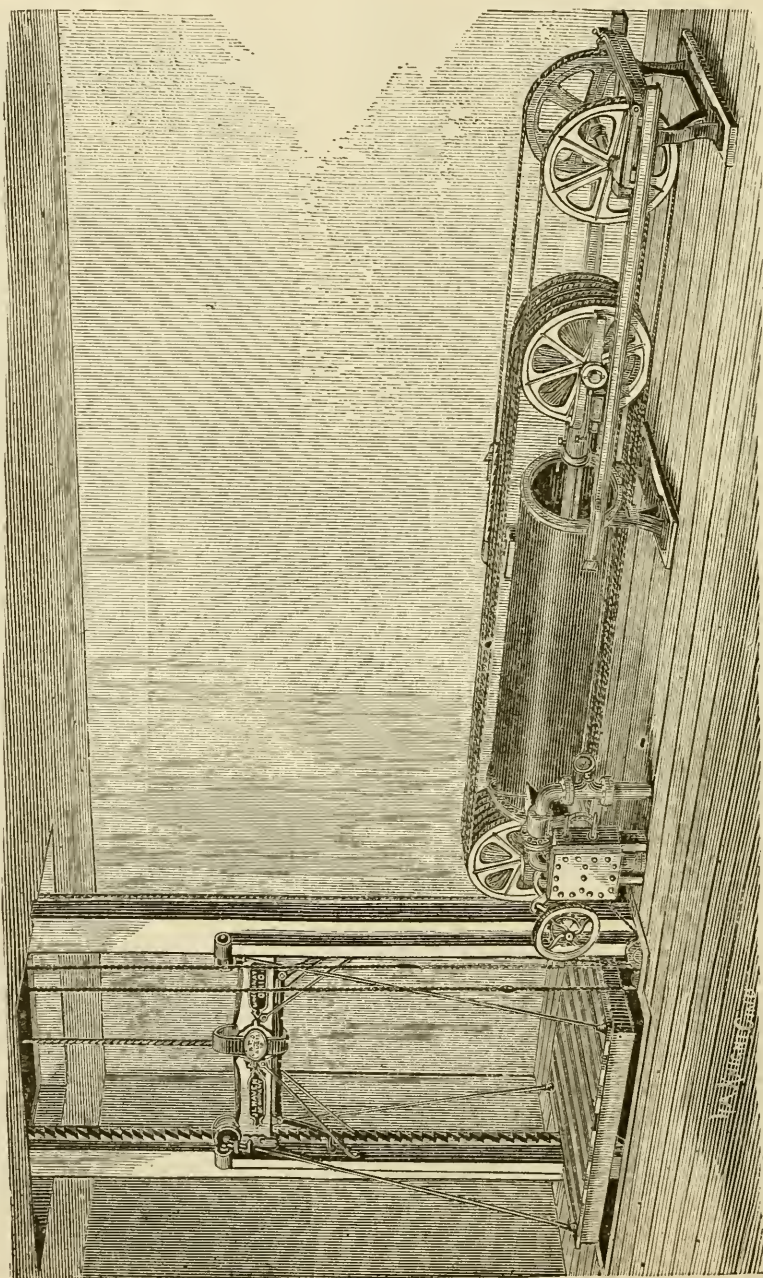


No. 6

## No. 6. ROPE HOISTING MACHINE.

This cut represents the old fashioned Hoisting Machine, with Friction Brake, suitable for raising heavy articles of merchandise. We furnish these also with anti-Friction Bearings when wanted. Capacity up to 3,500 pounds.

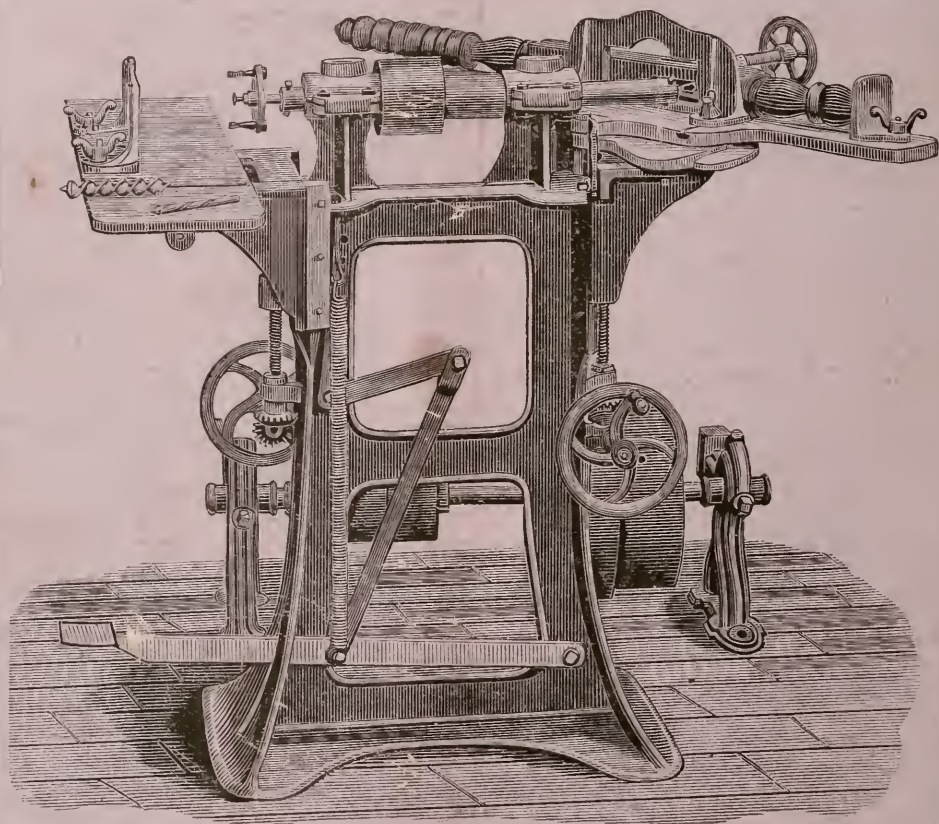
# JAMES L. HAVEN & CO.'S HYDRAULIC ELEVATOR.



To be driven from the Street Main, or from a Reservoir supplied by a small Pump in the Building.  
**PARTICULARS ON APPLICATION.**

*JAMES L. HAVEN & CO.*

# IRON FRAME BORING MACHINE



WITH

SPECIAL ATTACHMENT FOR ROUTING

## Haven's Patent Bed Fasteners.